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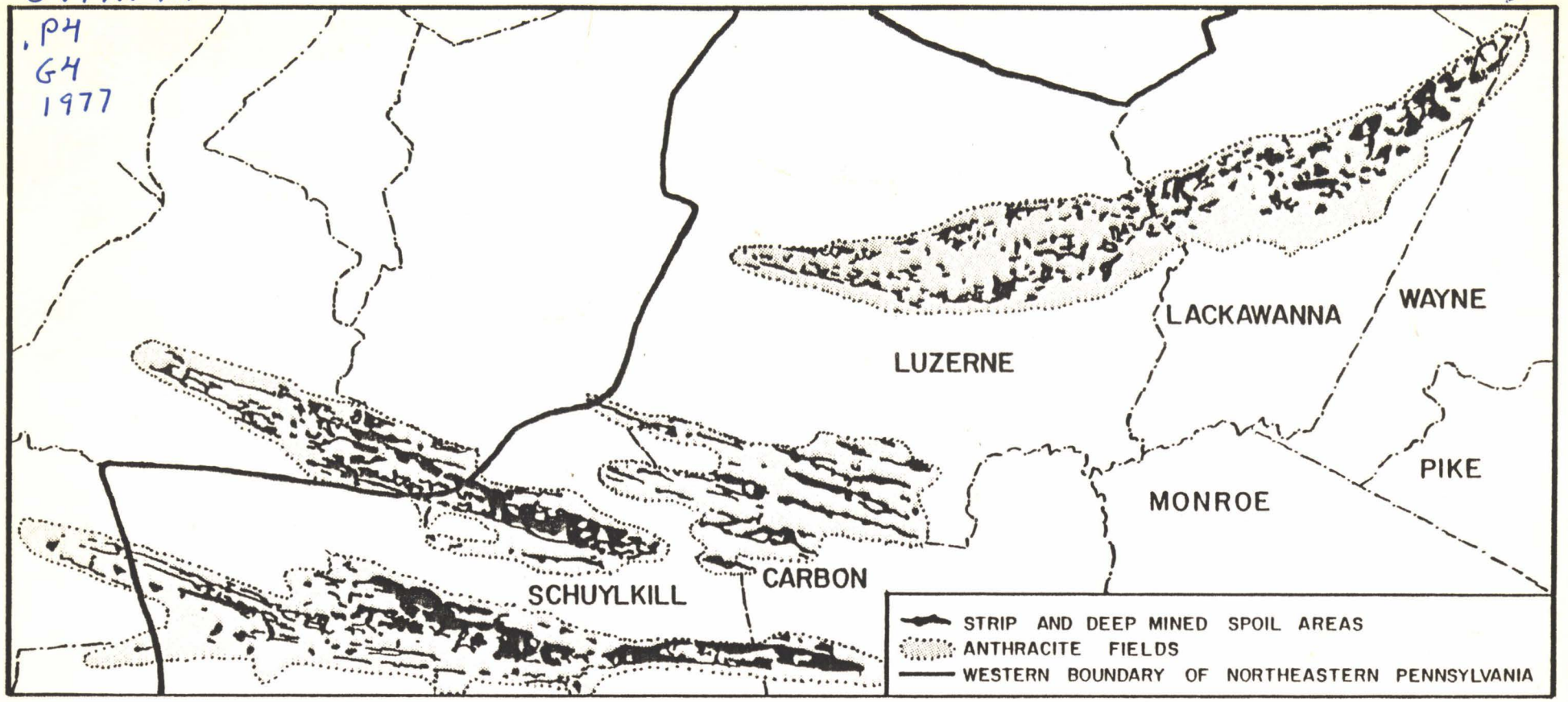

RECREATIONAL USE OF ANTHRACITE WASTE LAND

SUGGESTIONS FOR AN EVALUATION AND PLANNING PROCESS

THE ECONOMIC DEVELOPMENT COUNCIL OF NORTHEASTERN PENNSYLVANIA

IN COOPERATION WITH

NORTHEASTERN FOREST EXPERIMENT STATION, U. S. DEPARTMENT OF AGRICULTURE

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RECREATIONAL USE OF ANTHRACITE WASTELAND IN NORTHEASTERN PENNSYLVANIA; Suggestions for an Evaluation and Planning Process

Prepared by
THE ECONOMIC DEVELOPMENT COUNCIL
OF NORTHEASTERN PENNSYLVANIA

In Cooperation With
THE NORTHEASTERN FOREST EXPERIMENT STATION,
U.S. DEPARTMENT OF AGRICULTURE

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The report deals with the analysis, choice, and implementation phases of a planning process to reclaim mine wastelands for recreation in the Northeastern Pennsylvania anthracite fields. It presents a broad spectrum of data and ideas to satisfy a variety of potential users in the seven county region.

An initial flowchart suggests the interactions among major elements of the planning process phases. The subsequent chapters present general analyses of the physical characteristics of the region's some 30,000 acres of anthracite wasteland, and of the social, cultural, and economic characteristics of about 100 communities partially or totally underlain by anthracite fields. Implications for recreation potentials and choice options are suggested at the end of each set of observations, and consolidated in Chapter IV. Interactions between choices and implementation potentials, including those inherent in Federal and State assistance programs, are suggested in Chapter V. The report concludes with concrete examples for site selection and project planning processes.

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Last, not least, we thank David Gansner and Roger McCay of the U. S. Forest Service for their patient monitoring of this project, our colleagues at the EDCNP for their constructive reviews and comments, and our secretaries for their diligent efforts to put the text into publishable form.

FOREWORD

One hundred years of anthracite mining in Northeastern Pennsylvania has resulted in thousands of acres of non-productive wastelands. These wastelands represent dominant features of the urban landscapes of Lackawanna and Luzerne Counties, the central portion of Schuylkill County, and sections of Northeastern Carbon County. While they may represent sites of esthetic interest to an artist, and eyesores and potential health hazards to area visitors and the general public, they also represent significant land resources in the region's most populated areas. Recreation is a valid end-use potential for some of these lands.

Not all information in this handbook will be of equal importance to all potential users. An attempt has been made to arrange the materials in such a way that particular topics can be referenced as needed. Information relevant to recreation planning may be extracted for a particular anthracite community, group of communities, anthracite field, or anthracite field county, as well as for dominant demographic groups in the anthracite region.

Hopefully, the following pages will provide a useful reference source to a variety of persons and organizations concerned about recreation, mine wasteland reclamation, or overall improvement of the living environment. While the following does not provide a blueprint for such endeavors, it provides examples of factors to be considered during a project planning process, and suggests how such a process might be developed. It is up to the user of this handbook to modify the suggested process according to a specific situation and a specific set of objectives.

TABLE OF CONTENTS

Chapter		Page
	ABSTRACT	*iii*
	ACKNOWLEDGEMENTS	*v*
	FOREWORD	*vi*
	CHARTS AND ILLUSTRATIONS	*viii*
	HIGHLIGHTS	*x*
I	THE PROCESS	1
II	ANTHRACITE WASTELAND -INVENTORY AND CHARACTERISTICS	5
	Geographic Dimensions	7
	Types and Configurations	8
	Geologic Characteristics	11
	Material Composition	14
	Ownership Characteristics	15
	Suggested Recreation End-Use Potentials	16
	Conclusions	17
III	ANTHRACITE COMMUNITIES-INVENTORY AND CHARACTERISTICS	19
	Introduction	20
	Settlement Pattern	21
	Population Trends	23
	Population Age Characteristics	25
	Ethnic Characteristics	28
	Personal Income Characteristics	34
	Fiscal Characteristics	35
IV	SYNTHESIS-RECREATION NEEDS AND OPPORTUNITIES	39
	Introduction	40
	The Current Situation	41
	Suggested Needs and Potentials	42
	Candidate Activities and Requirements	43
V	IMPLEMENTATION POTENTIALS	49
	Introduction	50
	Environmental Engineering Study	51
	Inventory of Human and Institutional Resources	51
	Inventory of Technical and Financial Assistance Sources	52
VI	HOW TO DEVELOP A PROJECT	57
	How to Select a Site- An Example	59
	Step I: Site Inventory and Assessment	59
	Step II: Community Recreational Needs Assessment	61
	Step III: Evaluation of Site Suitabilities for Desired Activities	62
	Step IV: "Nailing Down" the Site	62
	How to Develop Plans for a Selected Site- An Example	63
	Socio-Economic Community Characteristics	64
	Physical Site Characteristics	67
	Recreation Needs and Potentials	68
	Sketch Planning	71
	Citizen Participation	74
	Environmental Engineering	74
	Feasibility Evaluation and Plan Refinements	74
	APPENDIX A - ETHNIC ANALYSIS	75
	APPENDIX B - FISCAL ANALYSIS	83
	APPENDIX C - STATE AND FEDERAL ASSISTANCE SOURCE INVENTORY	87
	FOOTNOTES	109

CHARTS AND ILLUSTRATIONS

	Page
A Suggested Evaluation and Planning Process for a Project to Reclaim a Mine Wasteland Site for Recreation	2
Mine Wasteland and Land Use Pattern, Anthracite Field Counties of Northeastern Pennsylvania, 1976	7
Disturbed Areas in the Carbondale Region of the Northern Anthracite Field	9
Disturbed Areas in the Tamaqua-Coaldale Region of the Southern Anthracite Field	10
Base Geology of the Northern Anthracite Field	12
Base Geology of the Eastern Middle, Western Middle, and Southern Anthracite Fields	13
Population Concentrations by Minor Civil Divisions, Anthracite Field Counties of Northeastern Pennsylvania, 1970	21
Anthracite Communities and Their Populations by Anthracite Field and County, Northeastern Pennsylvania, 1970	22
Pattern of Population Change, Anthracite and Pocono Regions of Northeastern Pennsylvania, 1930-1975	23
Population Losses by Minor Civil Division, Anthracite Field Counties of Northeastern Pennsylvania, 1950-1970	24
Median Population Age by Minor Civil Division, Anthracite Field Counties of Northeastern Pennsylvania, 1970	25
Selected Characteristics of Population 65+ in Anthracite Communities by Field and County, and Their Relative Degree of Concentration, Northeastern Pennsylvania, 1970	26
Percent of Population 65 or More Years of Age by County and Anthracite Field, Northeastern Pennsylvania, 1970	26
Distribution of Population with Non-English Mother Tongues by Minor Civil Divisions, Anthracite Field Counties of Northeastern Pennsylvania, 1970	28
Median Population Age, Population Change, Mother Tongue Perceptions by MCD-Northern Anthracite Field, 1970	31
Median Population Age, Population Change, Mother Tongue Perceptions by MCD-Western Middle, Eastern Middle, and Southern Anthracite Fields, 1970	32
Regional Factor Analysis Ranking of Anthracite Communities by Quintiles Among the 266 Minor Civil Divisions of Northeastern Pennsylvania - Northern Anthracite Field, 1970	37

	Page
Regional Factor Analysis Ranking of Anthracite Communities by Quintiles Among the 266 Minor Civil Divisions of Northeastern Pennsylvania - Western Middle, Eastern Middle, and Southern Anthracite Fields, 1970	38
State, County, and Large Municipal Parks, Anthracite Field Counties, Northeastern Pennsylvania, 1976	41
Examples of Recreation/Sports Facilities with Pre-Determined Requirements	44
Example for Activity Pairing According to Degree of Compatibility	46
Examples of Recreation Activities (Facilities) and Associated Planning Considerations	47
Suggested Funding Program Package for a Hypothetical Reclamation - Recreation Project	53
Typical Funding Process Flow Diagram	54
Typical Funding Process Time Flows, 1977-1978	55
Examples of a City's Mine Wastelands in Relationships to City's Comprehensive Plan Considerations	60
Geography of Example Site	63
Pattern of Population Change and Density by MCD within 15 Miles of Example Site	64
Disturbed Areas in the Southeastern Region of the Eastern Middle Anthracite Field	67
Example Site-Base Map	71
Sketch Plan Alternative 1	72
Sketch Plan Alternative 2	73
APPENDIX TABLES	
Population by Reported Mother Tongue by County, Northeastern Pennsylvania, 1970	76
Populations of Unreported Mother Tongue by Nativity, Selected Areas, 1970 (Percent of Population)	77
Comparisons of Native Born Population and Population Claiming English as Mother Tongue by County, Northeastern Pennsylvania, Pennsylvania, United States, 1970	78
Distribution of Persons of Recorded Mother Tongues by Minor Civil Division, Northeastern Pennsylvania Anthracite Fields, 1970	79
Community Factor Analysis Variables and Their Significance	85

HIGHLIGHTS

. . . Current observations on mine wasteland reclamation projects for recreation point to the need for a research, planning, and decision process prior to the initiation of a physical "improvement" project.

. . . Such a process involves sensitivity to likely user needs (demographic characteristics), neighborhood impact (topographic, land use, and traffic relationships), wasteland potentials (on-site and off-site physical characteristics), and implementability, (community resource characteristics).

. . . Much of the anthracite region's 30,000 acres of mine wastelands, consisting predominantly of refuse banks and unreclaimed strip-mines is located in close proximity to human settlements, and to a large number of potential recreation users.

. . . The different wasteland configuration patterns in the Northern and the Middle, - and Southern Fields, indicate certain differences in activity potentials.

. . . The geologic conditions of anthracite fields and their wastelands indicate certain hazard potentials which should be recognized during the site selection and/or design process.

. . . While the composition of anthracite waste materials may not always be conducive to plant growth, it may present valuable growth media, and may include marketable resources which could be exploited prior to end-use implementation.

. . . While most anthracite wasteland is in single or complex private ownership, certain areas which may have particular merits for recreation projects, are already in public ownership.

. . . While some unreclaimed anthracite wastelands are currently used for certain forms of recreation, there are those potential recreation activities which can be added with little or no additional investment other than for activity management.

. . . About 100 minor civil divisions (MCD's) in Lackawanna, Luzerne, Carbon, and Schuylkill Counties, including those with the region's greatest population concentrations, have been affected by past mining activities.

. . . The demographic characteristics of the counties and communities of the anthracite region, which are markedly different from those of Northeastern Pennsylvania as a whole are assumed to have a bearing on recreation needs and preferences, on project implementability, and on recreation policy orientations.

. . . While the "Pocono Counties" in aggregate are experiencing significant population growth, the "Anthracite Counties" experienced chronic population declines between 1930 and the 1960's, followed by modest trend reversals.

. . . The median age of "anthracite communities" is, in aggregate, significantly higher than for the region as a whole.

. . . Ethnic "minority" groups are generally more strongly represented in anthracite communities than in non-anthracite communities.

. . . There is a certain degree of correlation, especially in the Northern Field communities, between median population age, population change, and ethnic "minority" representation.

. . . The populations of anthracite communities are more strongly represented in the lower income groupings than those of non-anthracite communities.

. . . A fiscal factor analysis ranking of Northeastern Pennsylvania's 266 minor civil divisions (MCD's) shows an unproportionate number of anthracite communities in the lower quintiles of relative fiscal-economic well-being.

. . . While"recreation close to home" may be important particularly for densely populated and economically disadvantaged communities, the emphasis of recent years has been on large state and county parks in outlying rural or suburban areas with predominant accessibility by private automobile.

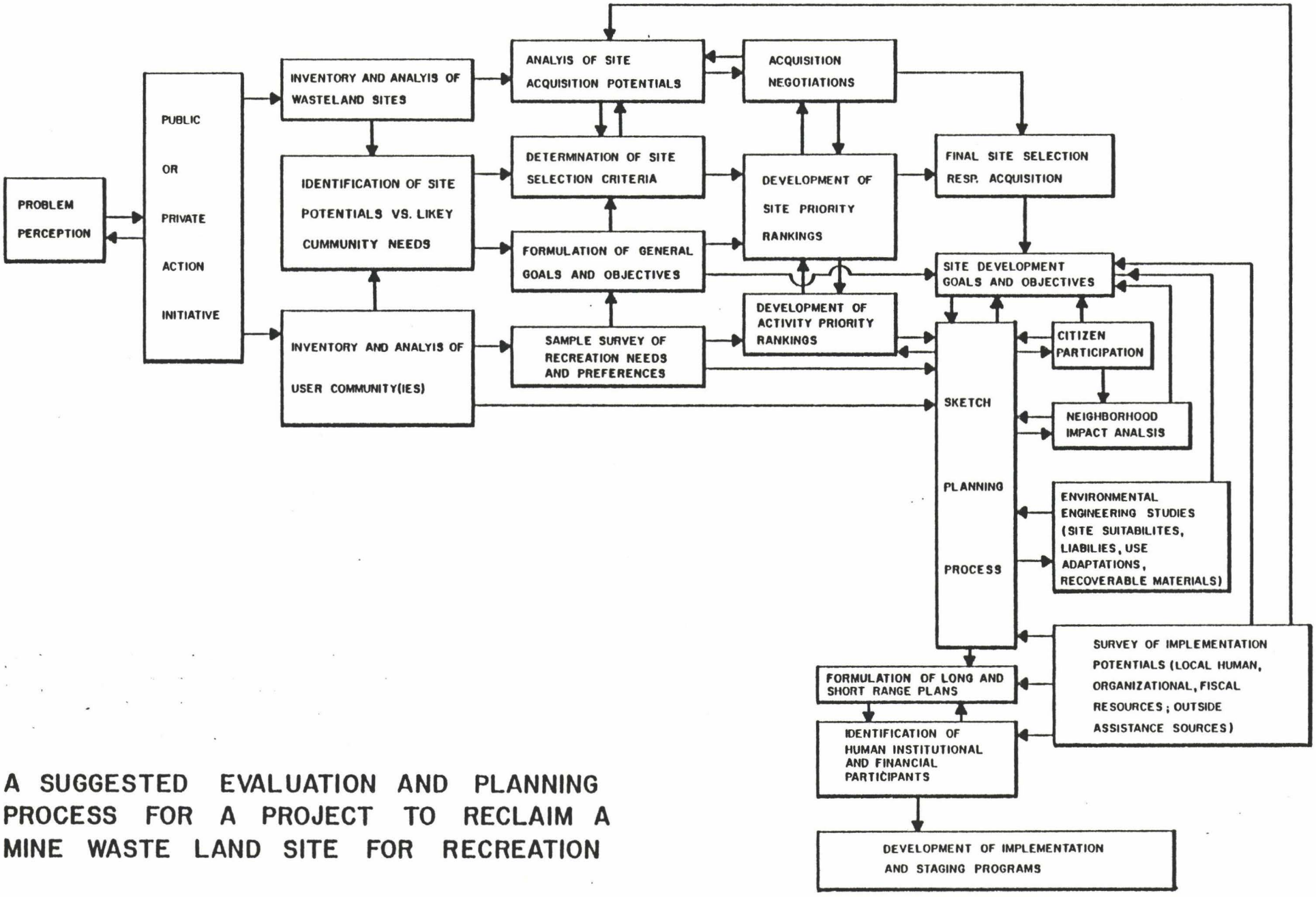
. . . Anthracite wastelands provide a significant resource in Northeastern Pennsylvania for urban open space and recreation "close to home," which would enhance the overall living environment of a large population.

. . . The expression of community recreation needs and desires in a project sketch plan should relate to questions of activity compatibility, and standard and perceived environmental requirements of each activity, resp. facility.

. . . Sketch plan evaluations and refinements are subject to environmental engineering - and related cost considerations and the availability of human, institutional, and financial resources for plan implementation.

. . . A number of State and Federal agencies can provide technical and/or financial assistance to such implementation projects.

I. THE PROCESS


PROBLEM PERCEPTION
PUBLIC OR PRIVATE ACTION INITIATIVE
INVENTORY AND ANALYIS OF WASTELAND SITES
IDENTIFICATION OF SITE POTENTIALS VS. LIKEY CUMMUNITY NEEDS
INVENTORY AND ANALYIS OF USER COMMUNITY(IES)
ANALYIS OF SITE ACQUISITION POTENTIALS
DETERMINATION OF SITE SELECTION CRITERIA
FORMULATION OF GENERAL GOALS AND OBJECTIVES
SAMPLE SURVEY OF RECREATION NEEDS AND PREFERENCES
ACQUISITION NEGOTIATIONS
DEVELOPMENT OF SITE PRIORITY RANKINGS
DEVELOPMENT OF ACTIVITY PRIORITY RANKINGS
FINAL SITE SELECTION RESP. ACQUISITION
SITE DEVELOPMENT GOALS AND OBJECTIVES
SKETCH PLANNING PROCESS
CITIZEN PARTICIPATION
NEIGHBORHOOD IMPACT ANALSIS
ENVIRONMENTAL ENGINEERING STUDIES (SITE SUITABILITES, LIABILIES, USE ADAPTATIONS, RECOVERABLE MATERIALS)
SURVEY OF IMPLEMENTATION POTENTIALS (LOCAL HUMAN, ORGANIZATIONAL, FISCAL RESOURCES; OUTSIDE ASSISTANCE SOURCES)
FORMULATION OF LONG AND SHORT RANGE PLANS
IDENTIFICATION OF HUMAN INSTITUTIONAL AND FINANCIAL PARTICIPANTS
DEVELOPMENT OF IMPLEMENTATION AND STAGING PROGRAMS

A SUGGESTED EVALUATION AND PLANNING PROCESS FOR A PROJECT TO RECLAIM A MINE WASTE LAND SITE FOR RECREATION

THE PROCESS

A project normally begins with the recognition of a problem or a set of problems, of potentials for solving them and a strong desire to make use of such potentials. In this case, we have

- the environmental and economic problems of mine wastelands
- a felt need for new recreational opportunities in densely populated and economically disadvantaged neighborhoods and communities, and
- opportunities to solve both problem areas through one project package.

The task of problem solving normally begins with the vision and initiative of an individual, a group of individuals, or a civic, fraternal, religious, public or similar organization, or a combination of these. Depending on the orientation of the person or group initiating a project, problems may be viewed in terms of

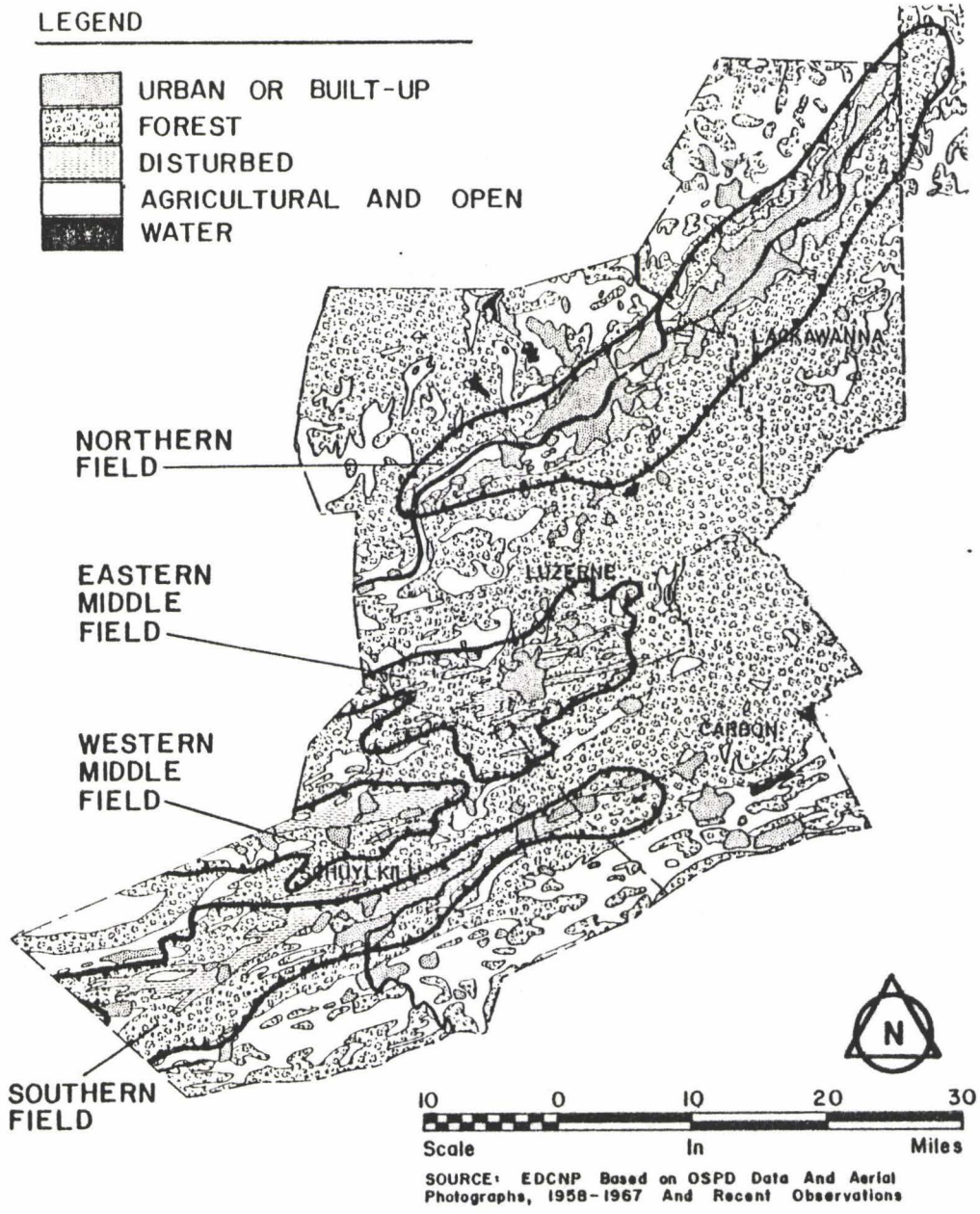
- a geographic unit (e.g. neighborhood, community, group of communities, county, region), or
- a specific consumer group (e.g. elderly, young, rich, poor, Polish community, Italian community, etc.), or any combination of these.

While leadership initiative is of vital importance, a given project can only achieve its highest potential if it is developed according to a logical process with detailed analysis and decision making steps. For instance, a significant opportunity can be lost if, as in one case, civic initiative provides for the removal of a slope before a neighborhood study shows that sledding would have been a desirable activity on the site.

Similarly, significant damages can occur to a neighborhood if a site is improved for its "best use" without prior analysis of the likely impact of its use on adjacent areas. For instance, in one case, a wasteland site was being prepared for community sports activities. Due to its location and the distribution of its service area population, such activities would represent significant traffic generators. Yet, the only access and egress could be provided over narrow streets with steep slopes in densely developed residential neighborhoods. While the anticipated recreational use might satisfy an important community need, its impact on the adjacent neighborhoods could be devastating.

The selection of project sites and of site uses must be viewed concurrently with site potentials, community and neighborhood needs and values, and within the context of the site's physical relationship to its larger environment. Each of these aspects involves a series of analyses which are suggested on the opposite planning process flow chart. The following chapters show how these analyses might occur in terms of the anthracite region as a whole and in terms of specific examples.

II. ANTHRACITE WASTE LAND-INVENTORY AND CHARACTERISTICS



MINE WASTE LAND AND LAND USE PATTERN, ANTHRACITE FIELD COUNTIES OF NORTHEASTERN PENNSYLVANIA, 1976

GEOGRAPHIC DIMENSIONS

Over 100 years of anthracite mining have dotted the landscape of Northeastern Pennsylvania's anthracite region with, in many cases, highly visible, environmentally damaged, and unproductive land areas. According to the Pennsylvania Department of Environmental Resources and the U.S. Bureau of Mines, such "wastelands" include about 4,500 abandoned strip mine areas accounting for more than 18,000 acres of land, and some 860 refuse (or "culm") banks accounting for more than 12,000 acres of land. The latter are distributed among the four anthracite fields as follows:

Distribution of Refuse Banks[1] by Anthracite Field

Field	Number of Banks	Total Acreage
Northern	372	3,550
Eastern Middle	171	1,450
Western Middle	172	3,540
Southern	148	3,500

While similar statistics for the distribution of abandoned stripping lands are not available, one may observe that they are particularly prevalent in the Eastern Middle, and Southern Fields because of a greater occurence of steeply pitched coal seams in these areas.

In general, one may conclude that 30,000 acres of "wasteland" in close proximity to the region's most urbanized areas (including about 90,000 acres of residential, commercial, and industrial lands),

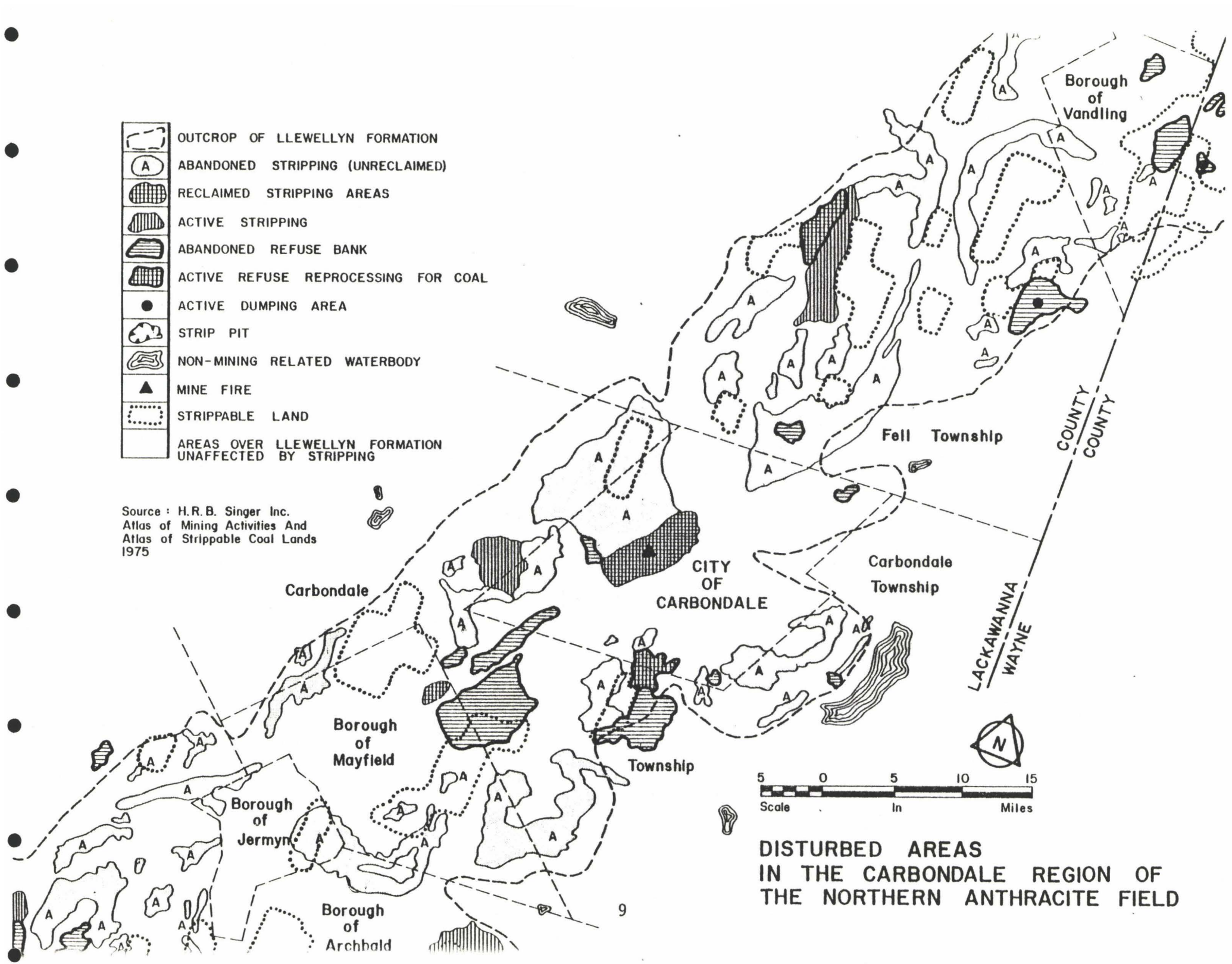
- represent a significant land reserve which (even without the future reuse potentials of all current coal resource areas) could provide for all of the region's urban growth needs and related support systems,
- should provide a significant input into regional land use and development policies, including those policies concerned with recreation and (urban) open space,
- provide for a wide range of future activity allocation choices, including the location and distribution of urban and regional recreation activities,
- place a significant responsibility on local and regional decision-makers for setting priorities and optimizing choices.

TYPES AND CONFIGURATIONS

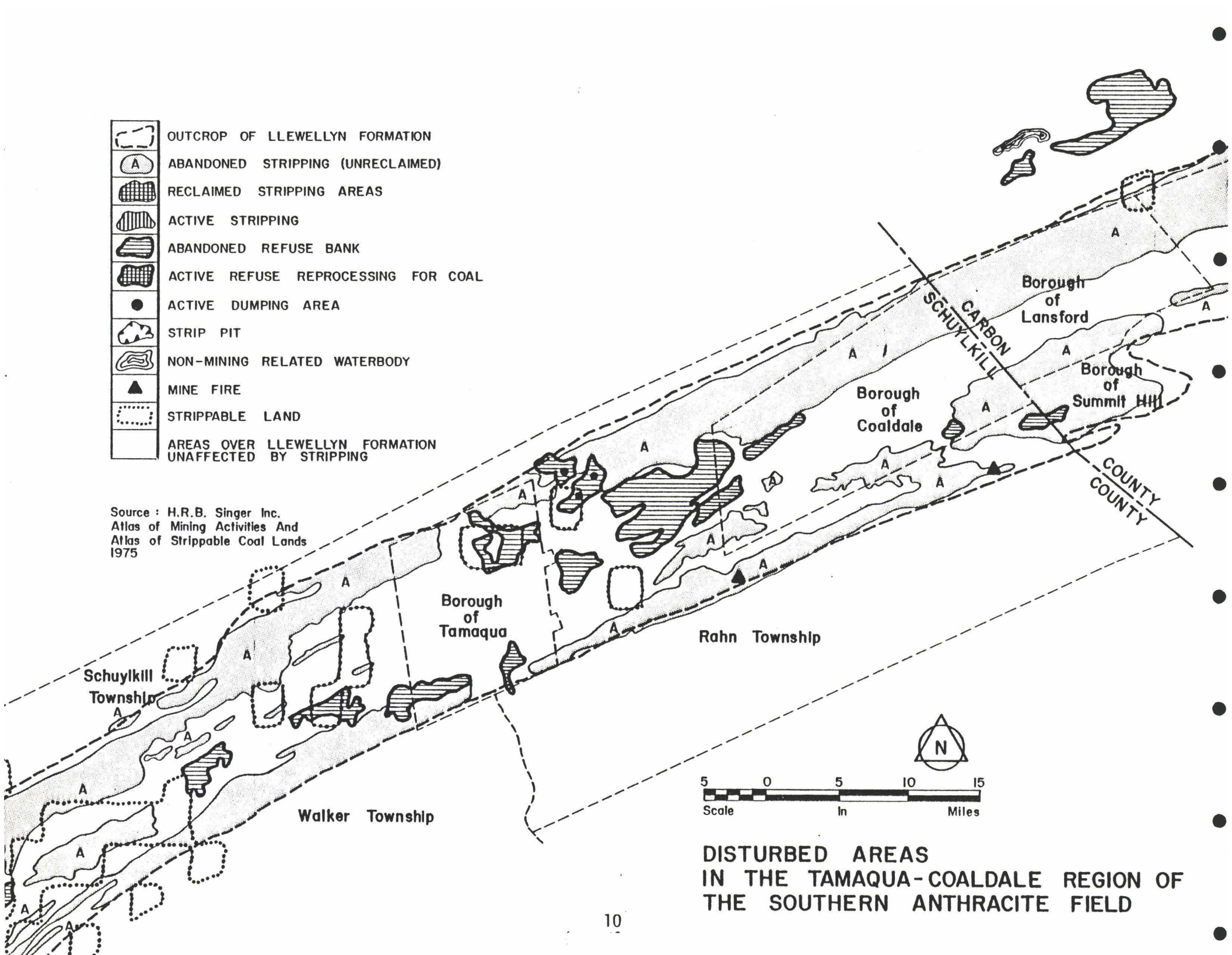
The map examples on pages 9 and 10 are representative for the types and configurations of lands altered by past and current mining activities in the Northeastern Pennsylvania Anthracite region. This includes various types of abandoned, reclaimed, and currently active stripping, dumping, or refuse reprocessing areas. The maps further show examples of land with future stripping potentials which were defined on the basis of current development patterns. While only abandoned, unreclaimed mining areas are of interest to mine wasteland reclamation endeavors, the currently or potentially active coal resource areas should not be overlooked for future reclamation and end-use potentials.

In terms of wasteland configurations, pronounced differences between the Northern-and the Middle and Southern Fields may be observed. The differences derive in part from different geologic formations and in part from particular mining and settlement histories. Thus, on the Northern Field, relative compact wasteland parcels of various shapes and average diameters of one to two miles are scattered throughout the urban corridor. On the Southern and the Middle Fields, long contiguous wasteland corridors of 10 to 20 or more miles are intersperced with small urban concentrations.

The configuration, size, and settlement pattern location of wasteland parcels influences their degree of suitability for particular uses. For instance, a long, narrow parcel might be particularly suitable for hiking, biking, or cross country skiing trails, and, if located in an area of urban concentration, for urban commuter trails. On the other hand, a more compact parcel, approaching the shape of a circle or square, might be particularly suitable for a sports center, for instance, especially if it is so located that its traffic generation would not conflict with adjacent neighborhoods.



DISTURBED AREAS
IN THE CARBONDALE REGION OF
THE NORTHERN ANTHRACITE FIELD



DISTURBED AREAS
IN THE TAMAQUA-COALDALE REGION OF
THE SOUTHERN ANTHRACITE FIELD

From this perspective, the examination of wasteland with regard to candidate recreation activities relates to the question:

- What type, size and shape of a wasteland parcel could most conveniently satisfy the greatest number of desired and potentially desired recreational activities to the least detriment to adjacent neighborhoods and the greatest benefit to potential users?

GEOLOGIC CHARACTERISTICS

Geologic conditions of anthracite wasteland are determined by those of the anthracite fields as a whole whose stratigraphy derives from the Pennsylvania period[2] and is generally characterized by Post-Pottsville formations surrounded by the Pottsville Group. (See pages 12 and 13.)
The Post-Pottsville formations are described in terms of

> "thin to moderately thick sandstone and conglomerate interbeds, medium to coursegrained, with coal and dark gray to black shales. Strata are slightly to moderately weathered depending on lithology. They usually form low ridges and valleys in rolling and rough terrain. Approximately 90 percent of the coal mined in the. . .area is obtained from key markerbeds within this formation."[3]

The Pottsville Group is described in terms of

> "thin to thick bedded, fine-grained to course conglomeratic sandstone, with subordinate amounts of shales, siltstones, limestone, coal and underclay. Sandstone strata are highly to moderately resistant forming crests, flanks of ridges and other "breaks" in topography. A distinctive ridge former in the anthracite region. Key coal beds are primarily situated in the upper portion of this formation near its contact with the overlaying Post Pottsville formations."[4]

The most common hazards of areas with Post-Pottsville formations are subsidence potentials due to past mining activities, landslide potentials, and slope instability. The most frequent development constraints relate to extensive faulting and fracturing. Such hazards and constraints also occur in areas characterized by the Pottsville Group, but to a slightly lesser extent.[5]

The distribution and extent of these hazards and constraints must be taken into account for overall land planning and development activities, and for the choice of structure foundations.

A prudent selection of candidate recreation sites is influenced by

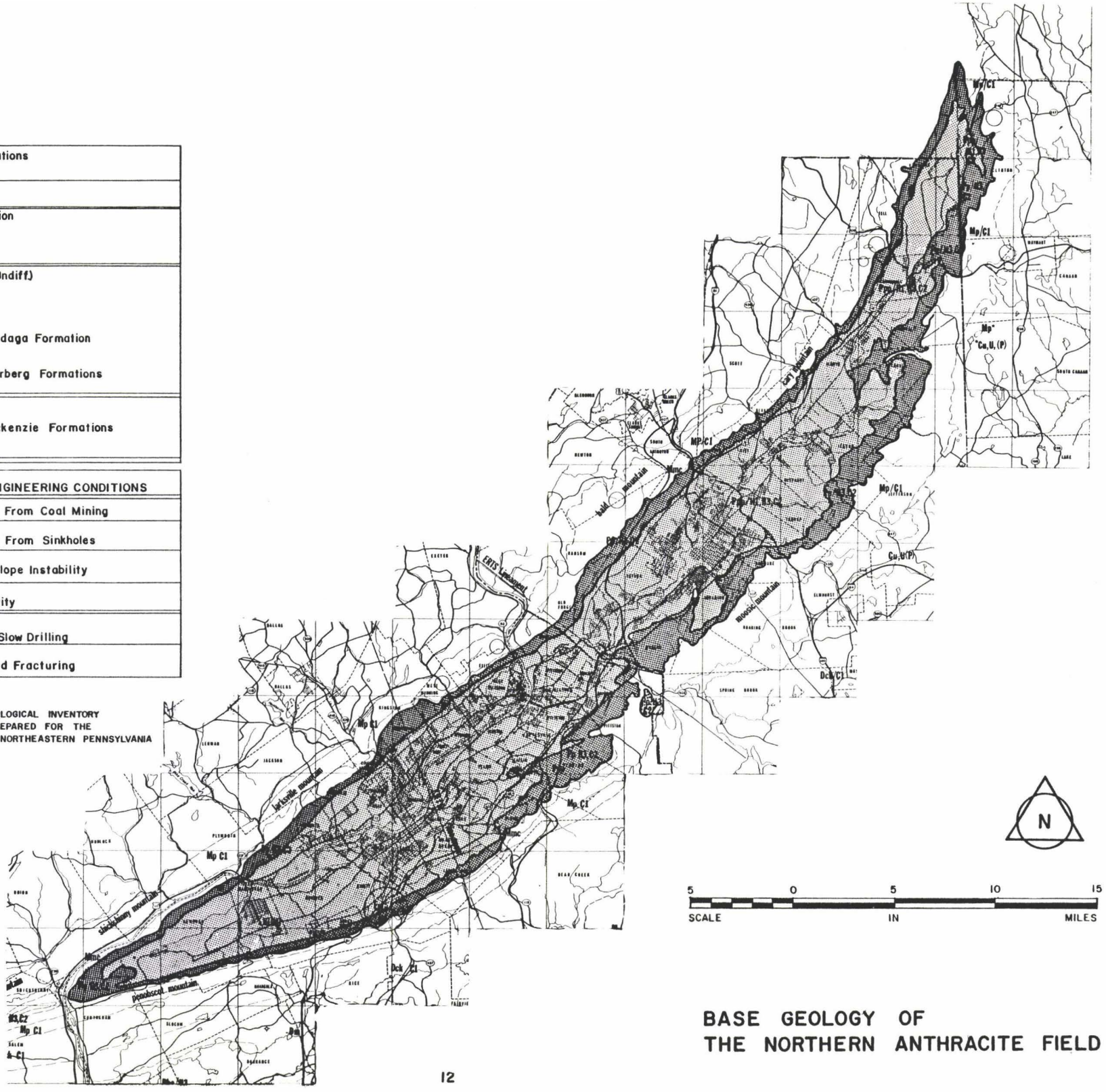
- the relative extent and severity of safety hazards and the likely cost of their removal, either in terms of actual removal or in terms of making such areas inaccessible to site users,

- the site use limitations derived from existing hazards and/or constraints and the social and economic cost of removing such limitations or adapting the site plan to them.

Pennsylvania	Ppp	Post Pottsville Formations Including Llewellyn
	Pp	Pottsville Group
Mississippian	Mmc	Mauch Chunk Formation
	Mp	Pocono Group
Devonian	Ds	Susquehanna Group (Undiff.)
	Dck	Catskill Formation
	Dho	Hamilton Group Onodaga Formation
	Doh	Oriskanny and Helderberg Formations
Silurian	Sbm	Bloomsburg and Mckenzie Formations

	Map symbol	ENVIRONMENTAL-ENGINEERING CONDITIONS
Hazards	H1	Potential Subsidence From Coal Mining
	H2	Potential Subsidence From Sinkholes
	H3	Landslide Potential/Slope Instability
	H4	Recent Seismic Activity
Constraints	C1	Difficult Excavation, Slow Drilling
	C2	Extensive Faulting and Fracturing

SOURCE:
JOSEPH S. WARD AND ASSOCIATES, GEOLOGICAL INVENTORY OF NORTHEASTERN PENNSYLVANIA, PREPARED FOR THE ECONOMIC DEVELOPMENT COUNCIL OF NORTHEASTERN PENNSYLVANIA 1975



BASE GEOLOGY OF
THE NORTHERN ANTHRACITE FIELD

Pennsylvanian	Ppp	Post Pottsville Formations Including Llewellyn
	Pp	Pottsville Group
Mississippian	Mmc	Mauch Chunk Formation
	Mp	Pocono Group
Devonian	Ds	Susquehanna Group (Undiff)
	Dch	Catskill Formation
	Dho	Hamilton Group Onodaga Formation
	Doh	Oriskanny and Helderberg Formations
Silurian	Sbm	Bloomsburg and Mckenzie Formations

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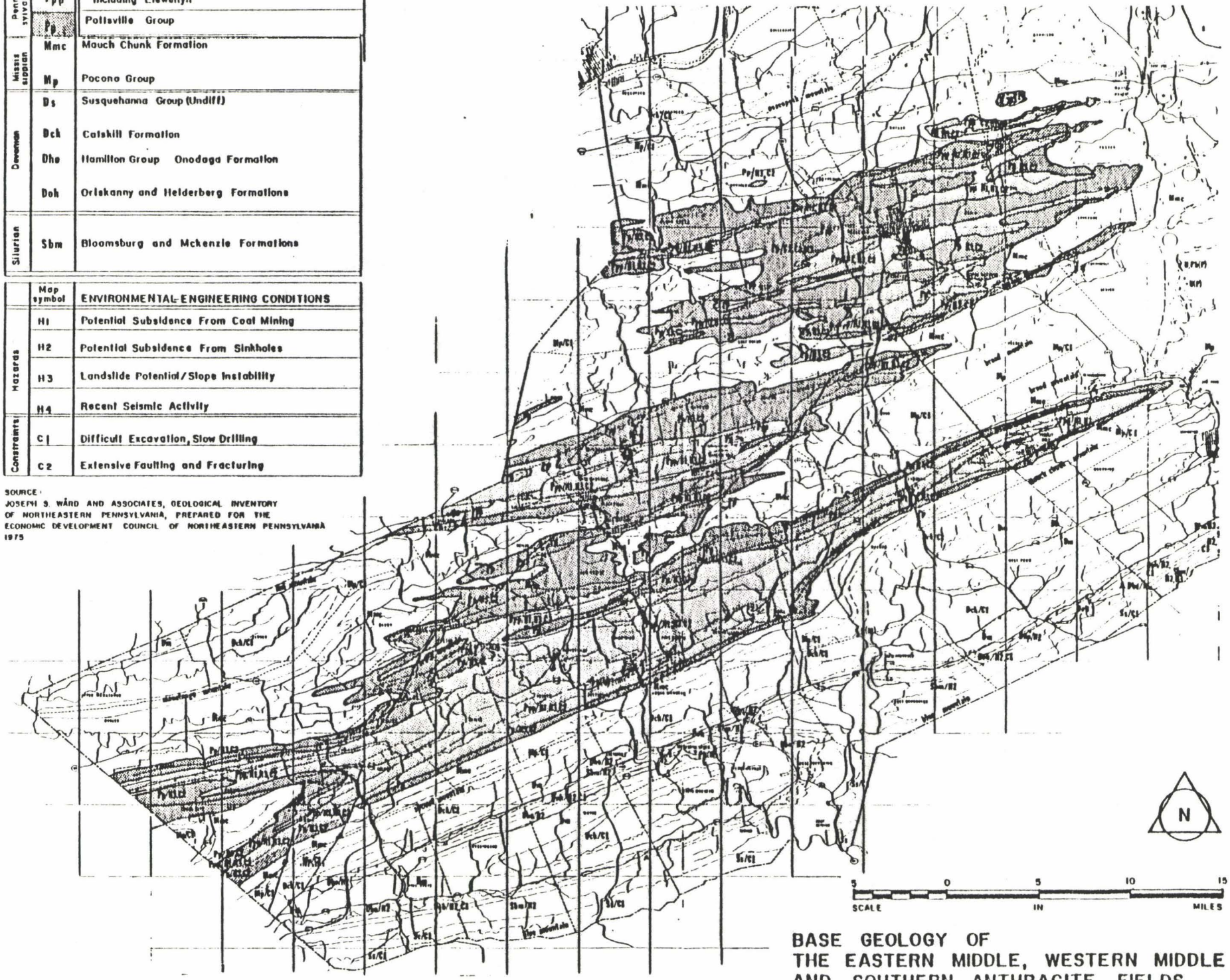


BASE GEOLOGY OF
THE EASTERN MIDDLE, WESTERN MIDDLE
AND SOUTHERN ANTHRACITE FIELDS

MATERIAL COMPOSITION

Land, which has been strip mined, is usually deficient in organic matter and frequently of high acidity with high iron, aluminum, and manganese content. This, in combination with low water holding capacity, high surface temperatures and low nutrient content may support little or no vegetation without significant modifications. Certain strip mine areas, on the other hand, provide the kind of media on which acid loving plants, such as certain species of moss, rhododendron, mountain laurel, birch, and shrubs of the blueberry family do rather well.

Refuse banks, the legacy of deep mining activities, broadly consist of breaker refuse, silt, mine refuse, tunnel rock, and mixtures of these. The breaker and mine refuse materials have a high content of still recoverable anthracite. Due to inefficiencies in early breaker and coal preparation facilities, and due to the fact that only anthracite coals of certain sizes used to be marketable, significant amounts of pure anthracite were discarded on refuse banks along with the breaker and mine refuse materials. Thus, according to a recent sample survey of 19 refuse banks by the Wilkes-Barre division of the U.S. Bureau of Mines,[6] about 15 to 27 percent of the surface materials alone represent recoverable anthracite due to earlier mining and recovery methods. Yet, while refuse banks contain valuable energy sources, their materials have been predominantly used as deep mine fill, and as fill material for strip mined lands, etc.

Refuse bank materials in themselves are not conducive to any plant growth. However, certain banks have been revegetated through the use of such growth agents as fly ash, municipal sewage sludge, or agricultural wastes. The type and extent of vegetation depends on the type of fertilizer and cover material used in combination with the bank's material composition and slope.

Depending on size and slope, refuse banks include, if appropriately covered and revegetated, potentials for those forms of recreation for which such slopes are a prerequisite such as tobogganing or downhill skiing. However, the question remains, to what extent the region's 900 million tons of refuse should be treated as recoverable resources, e.g. 135 million to 450 million tons for energy purposes and the remainder for building materials (the silicon content makes it suitable for the manufacture of bricks, for instance), various highway materials, for low-cost soilless media materials, etc. Research on the economic reuse value of refuse bank materials being conducted especially by the Pennsylvania State University and a number of industries may have a significant influence on the future refuse bank volumes and dimensions and their future use potentials, resp. the use potentials of the land on which they are located.

One may conclude that wasteland end-use potentials partially depend on ...

- the relative or perceived economic value of waste materials which, to some extent, will influence the timing of site availability and potential project initiation,

- the marketability of waste materials on a publicly owned site which, if exploited, could provide funds for subsequent site improvements for recreation,

- predominant site features after the recovery of marketable materials, where applicable.

With reference to existing and potential plant growth conditions, candidate project site selection is partially a matter of policy objectives which may range between

- an orientation towards the creation of a public recreation site at minimum improvement cost

  - whereby sites with existing favorable plant growth conditions might receive priority ratings, or

  - whereby recreation activity which can thrive on barren sites might receive priority ratings, and

- an orientation towards significant environment improvement whereby sites with unfavorable plant growth conditions would receive high ratings as community improvement project choices.

OWNERSHIP

Most Federal and State funding and technical assistance programs for wasteland reclamation are only applicable to lands in public ownership. However, a large portion of the region's anthracite wastelands are privately owned, predominantly by coal companies. Frequently ownership is listed under many corporate names and the real owner, from whom a parcel might be acquired, is difficult to determine. The securing of a clear title to a coal or mine wasteland property can entail a series of legal problems.[7]

Additional complications may relate to refuse banks which are treated as personal property rather than as part of the real estate on which they are located. Ironically, lands under culm banks have a depreciated assessment, because of the latter's presence, while culm banks are becoming increasingly valuable for their materials content. This provides for a relatively inexpensive method of holding land for speculation and storing a resource of appreciable value as well. This combination of factors might tend to reduce the owner's willingness to dispose of this type of wasteland property. In certain areas, it might delay private incentives to reclaim culm banks until the time was "ripe."

When evaluating the relative merits of candidate recreation sites from the aspects of ownership and acquisition potential, priorities might be assigned in descending order to ...

- sites currently in public ownership (in the past, a number of sites have been acquired by local governments through "Project 70" funds,[8] and other parcels are being held by county governments because of tax delinquencies), especially where public policies are favorable to their recreational use,

- sites in uncomplicated private ownership which are currently of little commercial value and which the owner would be willing
  - to donate (perhaps for the advantage of a tax write-off), or
  - sell at a modest price,

- sites in uncomplicated private ownership, although of important commercial value, which the owner would be willing to donate or sell at a deflated price, using the value difference for a tax write-off (The return from the reclamation of such materials could be applied to recreational site improvements),

- sites in complex ownership, if they are the only suitable sites, or if their superiority in other respects is in proportion to the greater acquisition problems.

SUGGESTED RECREATION END-USE POTENTIALS

As mentioned earlier, the recreational potentials of refuse banks should be evaluated against the resource value of the refuse material itself. If all the refuse material turns out to be marketable, the end result might be a level site and some financial resources to make improvements for those forms of recreation which require this kind of site. If only some of the refuse material is marketable, the balance might be leveled or left in a smaller bank for those forms of recreation which require a slope.

In terms of the reuse of strip mined areas, topographic features and the cost of modifying them for particular uses are of major importance. However, unlike commercial, industrial, and to some extent residential uses, recreation per se, has no stringent topographic requirements unless only certain specific forms of recreation are considered. The question is, whether or not society should adjust its leisure behavior to the circumstances offered by a potential recreational environment, or whether this environment should be adapted to predetermined recreational activity patterns.

Generally, strip mined areas, with a combination of slopes, level grounds, and strip pits which have, or can become lakes and ponds, can provide for an interesting variety of recreational activities. With little or no modification, most stripping areas could, for instance, provide

- areas and trails for off-road vehicles
- trails for cross-country skiing
- bridle paths

- hiking trails
- vistas and overlooks
- dog exercising areas
- tobogganing slopes
- areas for sun and air bathing
- areas for gardening

With appropriate vegetation, and water quality, certain areas could be

- wildlife reserves
- bird sanctuaries

Areas of geographic and topographic suitability could, with little or no modification, become:

- picnic and camping grounds
- play fields
- leisure walkways and commuter trails
- nature study areas
- adventure playground

If several of these and similar activities are to coexist on the same site, the site should be large enough to facilitate the segregation of incompatible activities. Such segregation would be a matter of activity allocation planning based on natural screening devices such as vegetation (if any) and topographic features. In certain instances, it would further involve the introduction of new plant and tree life with particular noise and air pollution absorption qualities, especially where activities which create those forms of pollution are to be screened from other activities and from nearby neighborhoods.

CONCLUSIONS

A community inventory of anthracite wastelands by size, type, configuration, major physiographic features, ownership, etc. provides for an identification of candidate recreation sites and their assessment with respect to

- geographic relationships of wasteland sites to the community(ies) and potential site users,
- recreational potentials based on site configuration and topographic features,
- potential site hazards and constraints for certain activities, and relative costs of removing them or adapting a plan to them,
- site ownership and/or site acquisition potentials,
- economic potentials of refuse materials and recreational site potentials after recovery of such materials where applicable,
- revegetation requirements and potentials.

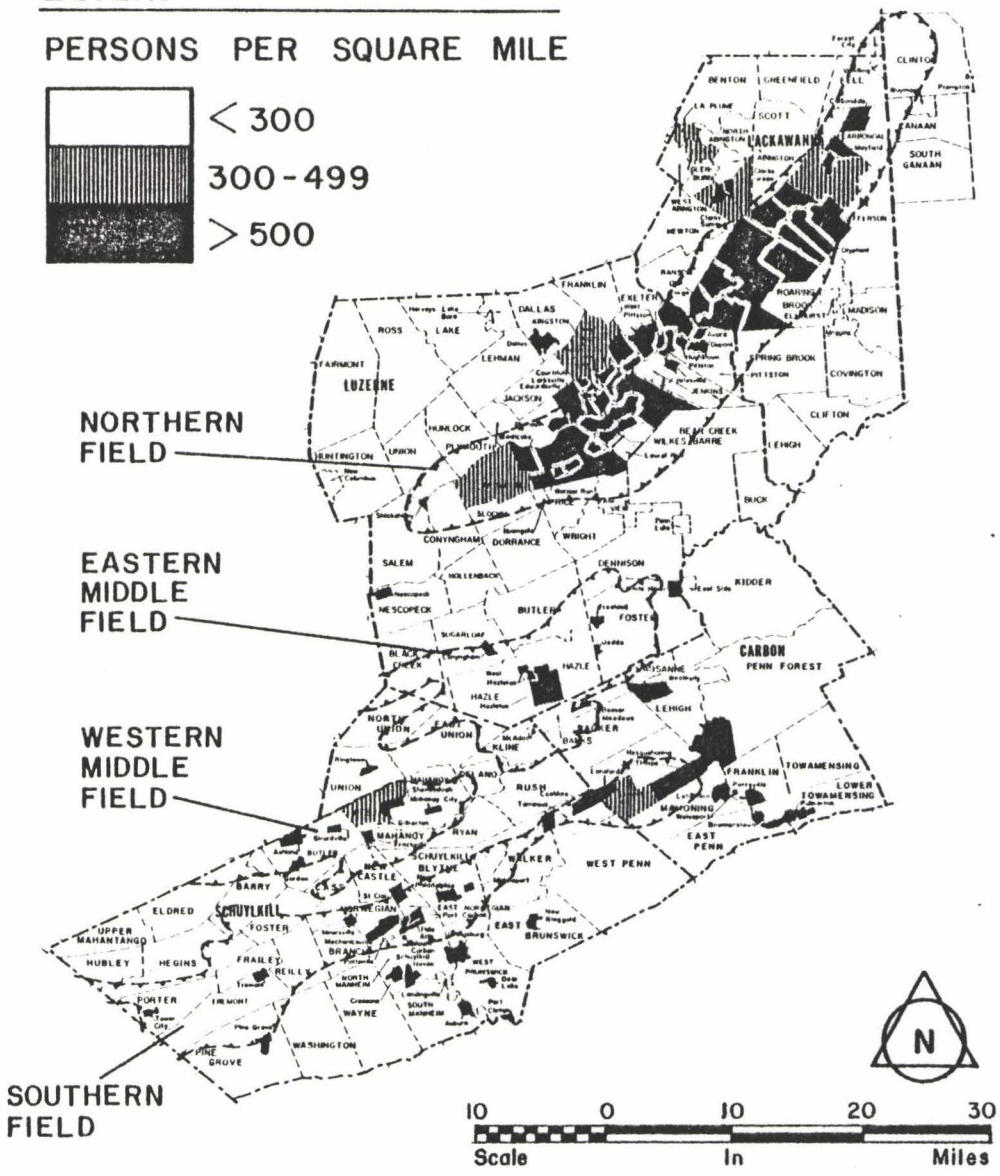
The inventoried sites should be evaluated against the likely needs, desires, and values of potential site users. The following chapter provides examples of social, cultural, and economic indicators for recreational needs and for the potentials of satisfying such needs.

III. ANTHRACITE COMMUNITIES - INVENTORY AND CHARACTERISTICS

INTRODUCTION

Since anthracite mining areas are closely intertwined with Northeastern Pennsylvania's areas of greatest population concentration, one may assume that predominant usership of wasteland recreation areas would derive from the anthracite communities themselves, with the exception of wasteland fringe locations near major traffic arteries which might relate to the populations of larger regions.

Anthracite communities, for the purpose of this analysis, are defined as those "minor civil divisions" (MCD's) which are partially or totally underlain by portions of one or more of the region's four anthracite fields. For most of these communities, the anthracite mining industry has, at one time, provided the main "raison d'être." Since the decline of the anthracite industry, these communities have experienced the conditions of long-term economic depression and population out-migration, as well as modest recent trend reversals due to industrial diversification. A new emphasis on the energy values of anthracite and related factors may, in the future, present a further new lease on life.



SOURCES: Penna. Dept. Of Environmental Resources, Coal In Pennsylvania And U.S. Bureau Of The Census Census Of Population 1970. Final Report

POPULATION CONCENTRATIONS BY MINOR CIVIL DIVISIONS, ANTHRACITE FIELD COUNTIES OF NORTHEASTERN PENNSYLVANIA, 1970

SETTLEMENT PATTERN

The settlement patterns of Northeastern Pennsylvania, as well as the region's social/cultural fabric have been strongly influenced by the location of anthracite mining activities. Over 33 percent of the region's municipalities which, by 1970, still accounted for nearly 70 percent of its population, trace their origin partially or totally to the mining industry. These "MCD's" include all of the region's seven cities.

Anthracite communities represent nearly 75 percent of the region's MCD's with more than 500 persons per square mile. The highest concentration of such communities is on the Northern Anthracite Field. All of the region's thirteen municipalities with over 6,000 persons per square mile and about 70 percent of its 80 MCD's with over 1,000 persons per square mile are anthracite communities.

According to the table on page 22, nearly half of the MCD's of the region's four anthracite counties, i.e. Lackawanna, Luzerne, Schuylkill, and western Carbon have been partially or totally affected by past mining activities. In 1970, these communities, in aggregate, accounted for 75 percent of the four-county population, ranging from 85 percent of the Lackawanna County to 30 percent of the Carbon County population.[9]

Inherent in the anthracite region's settlement pattern with its highly concentrated population nodes are potentials for urban recreational open spaces within walking distance from a large population base. Similarly, these population clusters may provide for a certain degree of social interaction and for potential neighborhood and community interests in the development of those recreational opportunities which, in an environment of economic constraints, can be more easily realized on a collective than on an individual basis.

ANTHRACITE COMMUNITIES AND THEIR POPULATIONS BY ANTHRACITE FIELD AND COUNTY, NORTHEASTERN PENNSYLVANIA, 1970

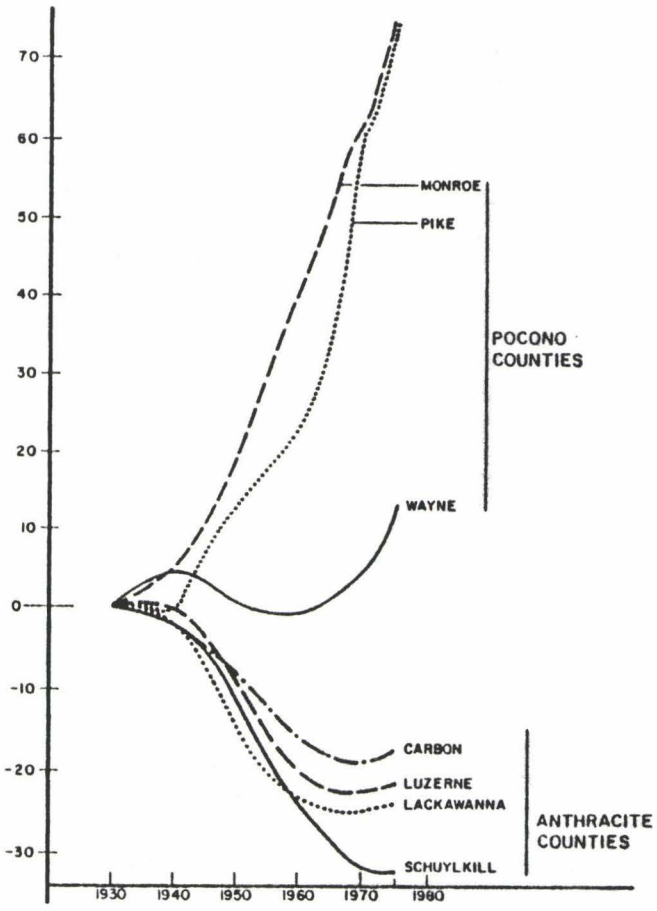
Field	NUMBER OF MCD's				Four County Total
	Lackawanna	Luzerne	Carbon	Schuylkill	
Northern	17	33	--	--	50
Eastern Middle	--	6	2	2	10
Western Middle	--	--	--	11	11
Southern	--	--	3	24	27
Total	17	39	5	37	98

Field	NUMBER OF PERSONS				Four County Total
	Lackawanna	Luzerne	Carbon	Schuylkill	
Northern	198,145	223,873	--	--	422,018
Eastern Middle	--	51,659	3,034	5,433	60,126
Western Middle	--	--	--	40,460	40,460
Southern	--	--	12,351	66,860	79,177
Total	198,145	275,532	15,351	112,753	601,781

Field	PERCENT OF COUNTY MCD's				Four County Total
	Lackawanna	Luzerne	Carbon	Schuylkill	
Northern	42	45	--	--	24.4
Eastern Middle	--	8	9	3	4.9
Western Middle	--	--	--	16	5.4
Southern	--	--	13	35	13.2
Total	42	53	22	54	47.8

	PERCENT OF COUNTY POPULATIONS				Four County Total
	Lackawanna	Luzerne	Carbon	Schuylkill	
Northern	84.6	65.4	--	--	53.6
Eastern Middle	--	15.1	6.0	3.4	7.6
Western Middle	--	--	--	25.4	5.1
Southern	--	--	24.4	41.8	10.1
Total	84.6	80.5	30.4	70.5	76.5

SOURCE: Calculations based on Figure 1, and U.S. Bureau of the Census, Census of Population, 1970; General Population Characteristics, Final Report PC(1)-B40, U.S. Government Printing Office



SOURCE: U.S. Bureau of the Census, U.S. Census of Population, 1930-1970 U.S. Bureau of the Census, Estimates of the Population of Pennsylvania Counties and Metropolitan Areas: July 1, 1974 and 1975 (Current Population Report Series P-26, No. 75-38) U.S. Government Printing Office, Washington, D.C. 1976

PATTERN OF POPULATION CHANGE, ANTHRACITE AND POCONO REGIONS OF NORTHEASTERN PENNSYLVANIA 1930 - 1975

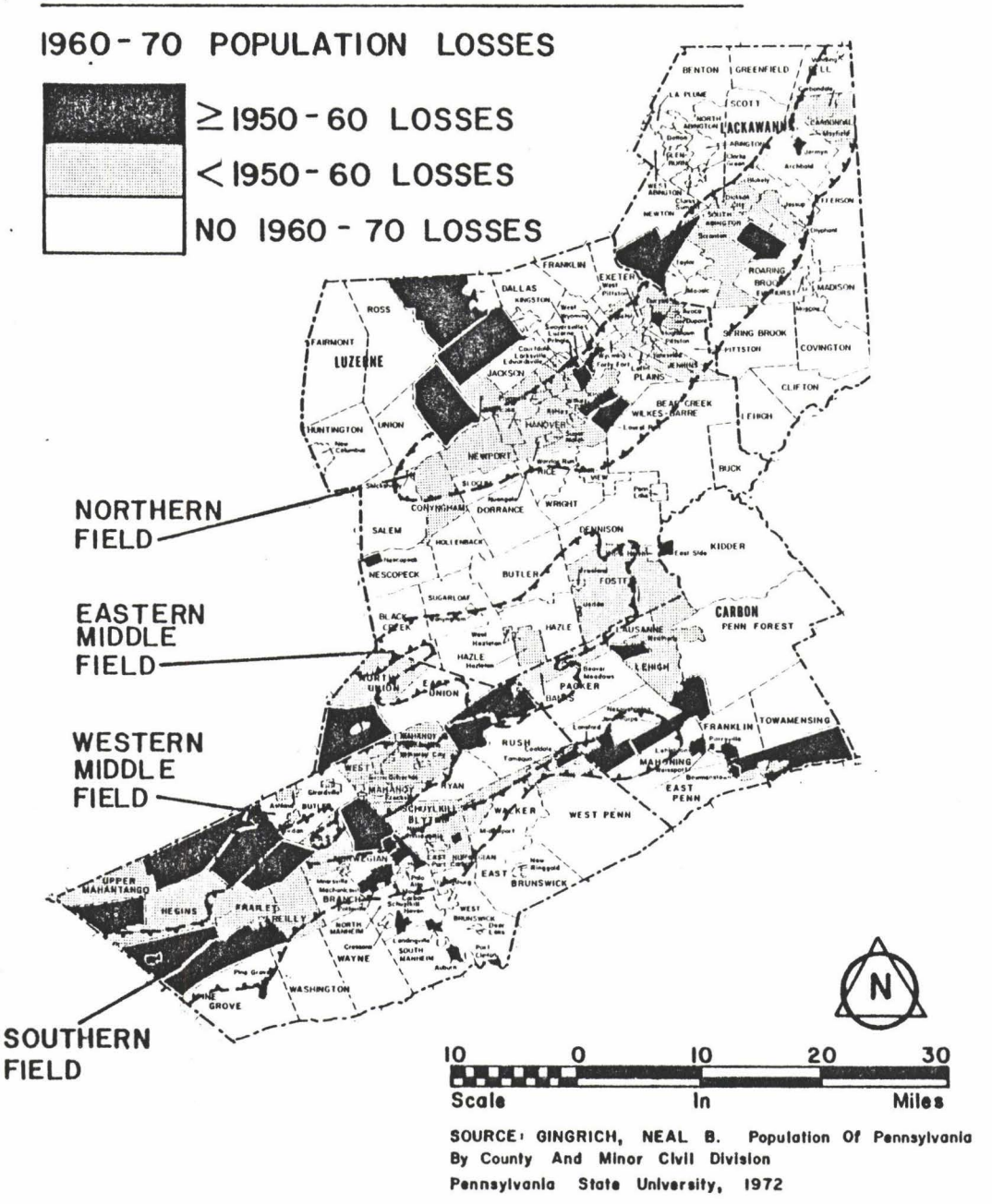
POPULATION TRENDS

The population of Northeastern Pennsylvania and the region's economic well-being reached its peak just before the onset of the Great Depression. In spite of economic growth diversification activities, especially during the last 15 years, Northeastern Pennsylvania has still not regained its 1930 population size of 1.12 million, when the "anthracite counties" alone accounted for more than one million persons. The declining rate of population loss and the trend reversal after 1960, particularly for Lackawanna and Luzerne Counties, has been closely linked to the growth of new manufacturing industries. The trend reversal for Carbon County may be partially associated with the recreation-tourism industries of the Poconos, partially with suburbanization trends and the completion of the Interstate system. Schuylkill County has reached its lowest population point later than any of the other counties, and may have experienced its trend reversal sometime around 1970.

The following map shows a greater contribution to recent regional population losses by anthracite communities than by those communities surrounding them. They further show that losses are not evenly distributed within the anthracite area and that certain groups of these communities, especially near the fringes of anthracite fields, are experiencing significant new growth.

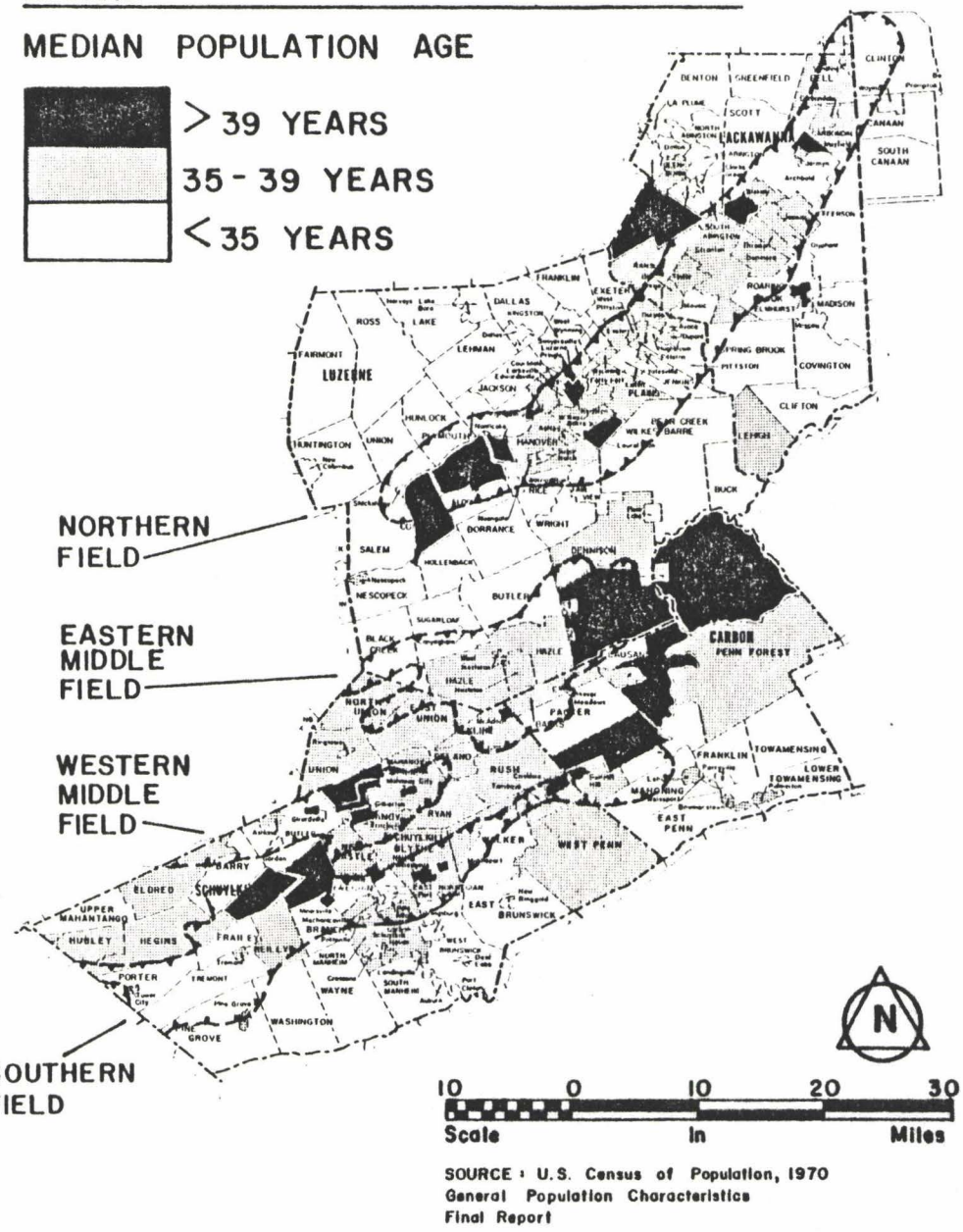
The implication of population trends for recreational programs relates

- to the need of declining communities for new esthetic and environmental amenities to retain and/or attract residents,
- to the difference in social/ cultural fabric between growth and no-growth communities, whereby the growing communities are likely to experience certain culture changes, while the static or declining communities may retain attitudes and behavior patterns imbedded in the past mining culture,
- to the influence of such social/ cultural differences on leisure behavior, recreational preferences, and community leadership pattern.



SOURCE: GINGRICH, NEAL B. Population Of Pennsylvania By County And Minor Civil Division Pennsylvania State University, 1972

POPULATION LOSSES BY MINOR CIVIL DIVISION ANTHRACITE FIELD COUNTIES OF NORTHEASTERN PENNSYLVANIA, 1970



SOURCE : U.S. Census of Population, 1970
General Population Characteristics
Final Report

MEDIAN POPULATION AGE BY MINOR CIVIL DIVISION, ANTHRACITE FIELD COUNTIES OF NORTHEASTERN PENNSYLVANIA, 1970

POPULATION AGE CHARACTERISTICS

The population decline of the anthracite communities has had a direct bearing on age compositions. The median age is usually high in those communities which have experienced chronic population out-migration. While the median age for some of these communities is well over 40, it is rarely below the region's median age of 36 years.

Consistent with a high median age is a high proportion of persons of retirement age. While about 11 percent of the population of the non-anthracite areas of the four "anthracite counties" is over 65 years of age, nearly 14 percent of the aggregate population of the anthracite communities are in this age group. The highest concentrations of elderly persons are in the Schuylkill County portion of the Western Middle Field, and the Carbon County portion of the Southern Field.

The elderly usually face greater physical, economic, and social disabilities than the population as a whole. As the table on the following page shows, likely disabilities deriving from poverty level incomes and from loneliness are slightly more pronounced for the elderly of anthracite communities than for those of the four-county area as a whole.

Inherent in the age characteristics of the anthracite region, which is biased towards the older age groups, are the following age specific recreational needs and recreational policy implications to which other considerations may be added:

SELECTED CHARACTERISTICS OF POPULATION 65+ IN ANTHRACITE COMMUNITIES BY FIELD AND COUNTY, AND THEIR RELATIVE DEGREE OF CONCENTRATION, NORTHEASTERN PENNSYLVANIA, 1970

Anthracite Field	NUMBER OF PERSONS 65+					NUMBER OF PERSONS 65+ BELOW POVERTY LEVEL[1]					NUMBER OF PERSONS 65+ LIVING ALONE				
	Lackawanna	Luzerne	Carbon	Schuylkill	Four County Total	Lackawanna	Luzerne	Carbon	Schuylkill	Total	Lackawanna	Luzerne	Carbon	Schuylkill	Four County Total
Northern	27,320	30,300	--	--	57,620	6,764	8,000	--	--	14,764	6,812	7,573	--	--	14,385
Eastern Middle	--	7,183	404	739	8,326	--	1,762	68	322	2,152	--	1,799	68	176	2,043
Western Middle	--	--	--	6,133	6,133	--	--	--	2,239	2,239	--	--	--	1,681	1,681
Southern	--	--	1,841	8,563	10,404	--	--	628	2,740	3,368	--	--	541	2,379	2,920
Total	27,320	37,483	2,245	15,435	82,483	6,764	9,762	696	5,301	22,523	6,812	9,372	609	4,236	21,029

Anthracite Field	PERCENT OF COUNTY POPULATIONS 65+					PERCENT OF POPULATIONS 65+ BELOW POVERTY LEVEL					PERCENT OF COUNTY POPULATIONS 65+ LIVING ALONE				
	Lackawanna	Luzerne	Carbon	Schuylkill	Four County Total	Lackawanna	Luzerne	Carbon	Schuylkill	Total	Lackawanna	Luzerne	Carbon	Schuylkill	Four County Total
Northern	87.4	68.3	--	--	55.8	89.8	69.8	--	--	53.0	90.5	69.1	--	--	55.8
Eastern Middle	--	16.2	6.1	3.5	8.1	--	15.4	3.7	4.6	7.7	--	16.4	3.7	3.2	7.9
Western Middle	--	--	--	29.2	5.9	--	--	--	31.8	8.0	--	--	--	30.6	6.5
Southern	--	--	27.9	40.7	10.1	--	--	33.8	39.0	12.1	--	--	29.7	43.3	11.3
Total	87.4	84.5	36.0	73.4	79.9	89.8	85.2	37.5	75.4	80.8	90.5	85.5	33.4	77.1	81.5

SOURCE: Calculations based on Pennsylvania State University, Department of Agricultural Economics, op. cit.

[1] Figures are for 1969.

PERCENT OF POPULATION 65 OR MORE YEARS OF AGE BY COUNTY AND ANTHRACITE FIELD, NORTHEASTERN PENNSYLVANIA, 1970

	Lackawanna	Luzerne	Carbon	Schuylkill	TOTAL
ANTHRACITE MCD'S	13.8	13.6	14.6	13.7	13.7
Northern Field	13.8	13.5	--	--	13.7
Eastern Middle Field	--	13.9	13.3	13.6	13.9
Western Middle Field	--	--	--	15.2	15.2
Southern Field	--	--	15.0	12.8	13.1
NON-ANTHRACITE MCD'S	10.9	10.3	12.3	11.8	11.2

SOURCE: Calculations based on Table 1 and Pennsylvania State University Department of Agricultural Economics and Rural Sociology, Elderly Persons in Pennsylvania; Selected Social Indicators from the 1970 Census, by Minor Civil Division, (1973).

- Provide for the physical, social, and psychological needs of a major consumer group, i.e. the relatively large elderly population of which about 27 percent have poverty level incomes, and of which a similar proportion has those social needs which are derived from living alone.

- Provide especially for those activities which are of prophylactic* and therapeutic** value to older persons, such as:

  - level, convenient, well drained walkways of slightly elastic material (certain mine waste materials may be particularly suitable),
  - benches for relaxation and socializing,
  - area(s) for swimming or water-gymnastics,
  - ice skating on smooth, well-maintained surface, unobstructed by juvenile skaters, for those who know how,
  - light gardening,
  - non-strenuous games,

- Improve recreational opportunities for the young who, by virtue of their relative minority, are likely to have fewer opportunities for recreation and social interaction than in youth-oriented communities.[10]

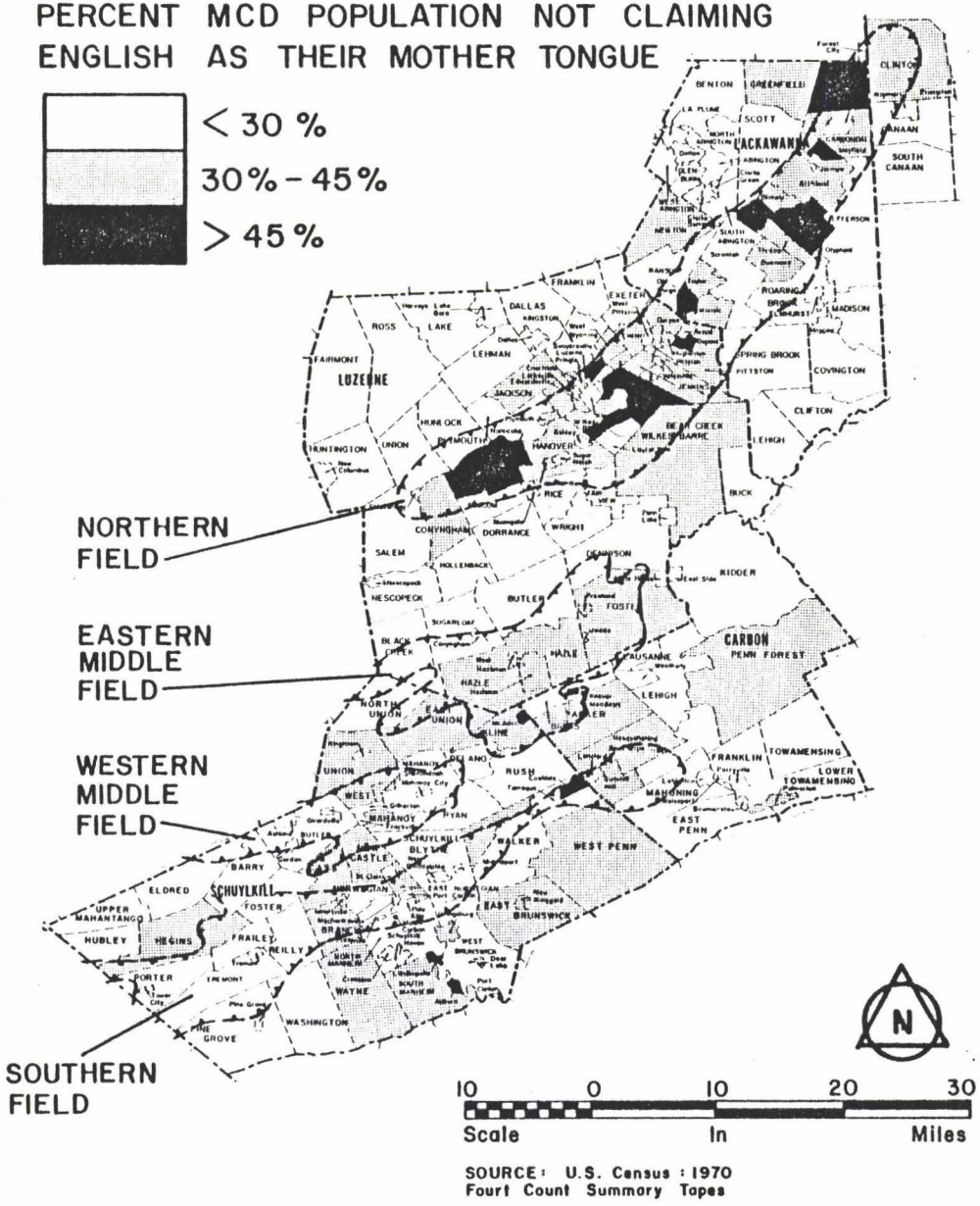
- Provide opportunities for social interaction among older and younger age groups by encouraging those activities which involve all age groups in a constructive manner.

- Locate recreational facilities and opportunities in such a way that a majority of users does not have to rely on the private automobile for access.

- Integrate the recreational site plan with adjacent neighborhood(s) so that the overall living experience of the anthracite community(ies) will be enhanced. This may involve

  - coordination with other community interests for better sidewalks and/or safe bikeways to and from the site,
  - recreational site location and design so that the site's most pleasant aspects are visible from a large number of homes,
  - site plans which provide for a natural "breathing room" expansion of persons who, by virtue of retirement and/or physical and economic constraints spend most of their lives in or near their homes,
  - a site design which provides for pleasant walks to the neighborhood grocery, church, or other activity centers.

*Activities with disease preventing qualities
**Activities with remedial quality for certain disabilities



DISTRIBUTION OF POPULATION WITH NON-ENGLISH MOTHER TONGUES BY MINOR CIVIL DIVISONS, ANTHRACITE FIELD COUNTIES OF NORTHEASTERN PENNSYLVANIA 1970

ETHNIC CHARACTERISTICS

Leisure behavior and recreational values are, to a certain extent, influenced by a population's cultural background. For instance, while football and baseball may be strong American institutions, they may not be as exciting as soccer, jai alai, or boccia to persons of a different background. While peer group activities and competitions among peer groups may be of prime importance in one culture, shared interests and activities which transcend age and income groupings may be just as - or more - important in another.

Different culture groups are likely to have different customs and values affecting non-working hours, and different perceptions of relevant leisure pursuits. Certain groups may treasure the colorful excitement of Mardi Gras or Oktoberfest as the culmination of annual leisure events, while others treasure the solitude of a traditional Easter sunrise stroll, or the lores surrounding the celebrations of the Summer and Winter solstices. The Turnverein, Maennerchor, or the devotion to athletic behavior of the Polish National Catholic Church's "Young Men's Society of the Resurrection" relate to recreational activities which are definite ethnic phenomena. [11]

It is a generally recognized fact that practically each major ethnic group has made a certain contribution to American life which also includes leisure. The question, in the case of recreational values in the anthracite communities, is: to what extent have various ethnic groups merged into the American mainstream or retained their identities in terms of those values and forms of social organization which influence recreational preferences? While the search for answers

to this question is beyond the scope of this study, the following indicators for the anthracite area's ethnocentricities may provide a basis for project oriented recreation preference studies.

In addition to customs and values concerning leisure, such ethnocentricities may also provide the climate and institutional framework for joint actions to bring about a physical expression of related leisure values.

Measure of Ethnocentricity - Language

If one believes with certain social philosophers that language determines thought patterns which, in turn, influence values, an examination of the languages spoken, or claimed as mother tongues in the anthracite region should provide an indication for likely variances in leisure values. Since few of the region's ethnic minority members are recent immigrants, their perception of a mother tongue other than English can provide a measure for the relative strength of ethnocentricities.

The map on page 28 shows a strong representation of persons who do not claim English as their mother tongue among the communities of the Northern and Eastern Middle Anthracite Fields. In the Southern Field, the pattern is less pronounced, partially because of a high Irish population whose mother tongue happens to be English. (The data for communities with high proportions of non-English mother tongues outside the anthracite fields, particularly in the lower portions of the region, are predominantly influenced by high concentrations of Germans whose economic status has been based on the soil rather than coal).

The remarkable fact about the anthracite region is the high proportion of second and third generation Americans which relate to a language group other than English. In spite of only minor differences in the proportions of native born populations in Northeastern Pennsylvania (with the exception of Pike County), the percentages of persons with non-English tongues is markedly higher in the region's Anthracite Counties than in the Pocono Counties, the State, or the Nation. (See Appendix A).

As an example, 96.2 percent of the 1970 population of Luzerne County and of the State as a whole were native born. Yet, only 68 percent of the Luzerne County population claimed English as mother tongue, compared to 77 percent of the Pennsylvania population. If these data were available for the other anthracite counties, similar patterns could probably be observed.

	Percent of Persons with English Mother Tongue, 1970	
Birth and Parentage	Luzerne County	Pennsylvania
Native Born	67.3	78.0
...of Native Parents	60.5	72.7
...of Foreign Born Parent(s)	6.8	5.3
Foreign Born	.4	.6
Total Population	67.7	78.6

SOURCE: U. S. Bureau of the Census. Census of Population: 1970 DETAILED POPULATION CHARACTERISTICS, Final Report PC(1)-D40, Pennsylvania (U. S. Government Printing Office, Washington, D. C., 1972).

The distribution of major ethnic groupings among the region's anthracite communities as indicated by mother tongue perceptions, as well as median age and population change characteristics are summarized on pages 31 and 32. While these charts are not all inclusive, they provide indications for the relative magnitude of ethnic expression, particularly in communities of high median age and limited population growth. (Further details on ethnic indicators are presented in Appendix A.)

Charts of this type may be used by different agencies involved in the development of anthracite wasteland recreation projects in different ways, for instance:

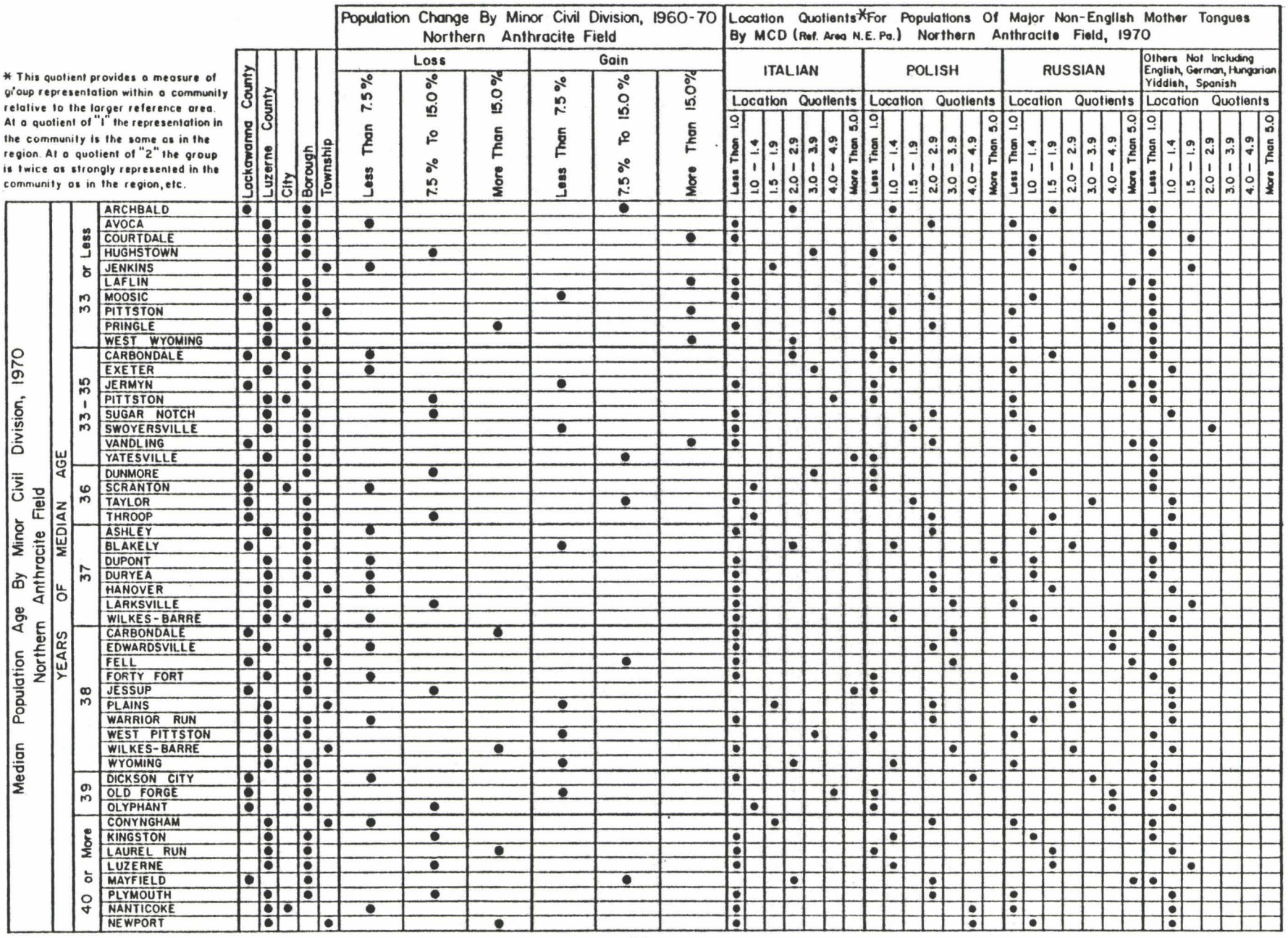
- An agency concerned about the needs of a particular population group may develop regional site selection priorities on the basis of relative concentrations of this group.
- A local organization may analyze the similarities and dissimilarities of adjacent communities in order to determine the likelihood of shared needs and interests which may be satisfied through intercommunity cooperation.
- A regional agency concerned about community revitalization might determine
  - project location priorities and develop project plans to enhance the attractiveness of communities which have experienced the greatest population losses, and
  - recreation program priorities to capitalize on the likely cultural and organizational assets of a community.

Ethno-Specific Forms of Recreation

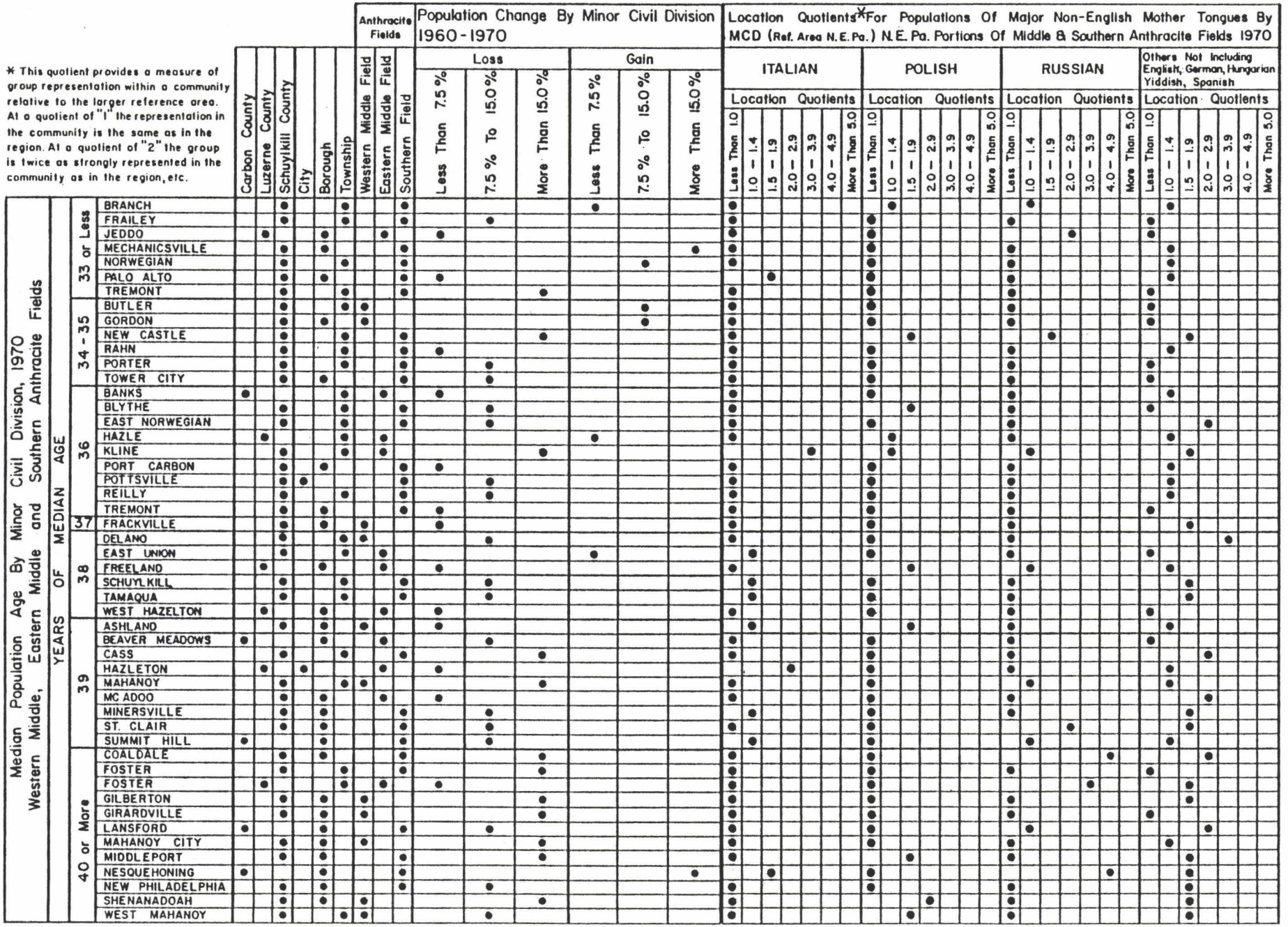
Unfortunately, no consistent research seems to exist on ethnically influenced leisure behavior in Northeastern Pennsylvania, or even the United States.[12] However, as suggested earlier, certain activities tend to relate more strongly to certain groups, than to the population as a whole. For instance, a recent anthropological study of an Italian community in Northeastern Pennsylvania provides certain insights into leisure activities of one ethnic group in one particular community, including such tradition as the game of "morra," various card games, story telling, and the observation that "Italian people always group together; the others don't. . ."[13] Similar studies might reveal ethnically influenced peculiarities of leisure behavior in many of the anthracite communities.

In addition, reference may be made to the various Irish, Polish, Italian, etc. folk festivals which are a tradition in certain communities, particularly within the anthracite region. Urban open spaces on reclaimed mine wastelands could provide a natural extension of these festivals in terms of fairs and craft shows, folk dances, or similar events.

MEDIAN POPULATION AGE, POPULATION CHANGE, MOTHER TONGUE PERCEPTIONS BY MCD - NORTHERN ANTHRACITE FIELD, 1970



MEDIAN POPULATION AGE, POPULATION CHANGE, MOTHER TONGUE PERCEPTIONS BY MCD - WESTERN MIDDLE, EASTERN MIDDLE AND SOUTHERN ANTHRACITE FIELDS, 1970



Conclusion

While recreation program planning for a specific ethnic group relates to the geographic distribution of this group, recreational demands within a geographic area or community relate in part to the area's ethnic mix. The implications of the preceding observations for a community project to reclaim anthracite wasteland for recreation entail

- an identification of community ethnic composition,
- a sensitivity to ethno-specific leisure values through a project plan based on an intuitive perception of such values, and/or a stratified sample survey of community ethnic groupings in terms of recreational preferences,
- a project design which capitalizes on the community's uniqueness because of its cultural heritage,
- a project strategy which capitalizes on the human-institutional resources of ethnic fraternal organizations.

PERSONAL INCOME CHARACTERISTICS

The ability to satisfy recreational needs on an individual basis is directly related to the economic capabilities of an area's households, which may be expressed in assets and income. The greater the relative wealth of an individual or a family, the greater the ability to afford pleasure travel, membership in health and recreation clubs, private swimming pools, tennis courts, seasonal homes, etc. On the other hand, the greater the economic limitations of an area's population, the greater the need for satisfying recreational requirements on a collective, or community basis.

DISTRIBUTION OF COMMUNITIES OF ANTHRACITE COUNTIES BY ESTIMATED PER CAPITA INCOME, 1972

COUNTY	$2,500	$2,500-$2,999	$3,000-$3,499	$3,500-$3,999	$4,000+	TOTAL
	Number of Anthracite Communities					
Lackawanna	1	7	8	1	-	17
Luzerne	2	16	18	6	(1)	43
Carbon	-	4	1	-	-	5
Schuylkill	5	23	8	1	-	37
TOTAL	8	50	35	8	(1)	102
	Number of Non-Anthracite Communities					
Lackawanna	2	9	4	4	4	23
Luzerne	4	5	14	5	3	31
Carbon	2	4	10	1	1	18
Schuylkill	2	18	9	1	-	30
TOTAL	10	36	37	11	8	102

SOURCE: U.S. Census, Current Pop. Report Series P-25, No. 583, May, 1975

Personal income data provide indicators for the relative wealth of an area's population. By comparison with Northeastern Pennsylvania as a whole, the anthracite region is characterized by a higher proportion of households with poverty level income, and a lower proportion of households with very high incomes. Median income figures for most anthracite communities are below those for the counties to which they belong, and those for Northeastern Pennsylvania as a whole.

One may conclude that

- on a regional basis, recreational program priorities should be directed to projects in areas of low income profiles, including most of the region's anthracite communities,
- recreational end uses of anthracite waste lands serving local community residents would entail
  - public or non-profit sponsorship,
  - site locations and plans which require little or no travel expenses,
  - recreational activity choices which do not require personal ownership of expensive equipment (walking, for instance, is a form of recreation which requires no investment other than a good set of shoes and all-weather clothes),
- commercial recreation on anthracite land, serving a regional, rather than local population, could provide an important new industry for economically depressed areas.

FISCAL CHARACTERISTICS

The capability of local governments to undertake mine wasteland reclamation and recreation projects without outside help is partially a function of its fiscal strength which, in turn, is influenced by a series of variables and their interrelationships. A factor analysis of the relative fiscal well being of each of the 266 local governments in Northeastern Pennsylvania[14] provides conclusions on the relative fiscal status of the region's anthracite communities.

This analysis entails an examination of relationships among 24 variables (see Appendix B for details) with a likely influence on local government fiscal conditions. The resulting eight factors provide indices for municipal tax efforts, income levels, tax base, public expenditures, size, service base, borrowing capacity, and years of formal education. (The variables included in each factor are listed in Appendix Table B-2.) All but the last of these factors[15] are useful in determining relative community potentials and outside financial assistance needs for a mine wasteland recreation project.

A community ranking system on the basis of these factors provides a measure of each municipality's economic well-being relative to the other 265 municipalities in the region. The charts on pages 37 and 38 show, for each factor ranking order, the quintile positions of anthracite communities relative to the communities of Northeastern Pennsylvania.

If anthracite communities in aggregate were typical for Northeastern Pennsylvania as a whole, they would be evenly distributed among quintile groupings, i.e. about 20 communities in each quintile for each factor. The table below indicates to what extent such communities deviate from this norm:

Distribution of Anthracite Communities
In Regional Factor Analysis Ranking System
By Factor and Quintile
Northeastern Pennsylvania, 1970

Factor: Index of. . .	1st Quintile "High"	2nd Quintile "Moderately High"	3rd Quintile "Moderate"	4th Quintile "Moderately Low"	5th Quintile "Low"
	Number of Anthra. Communities				
Tax Effort	48	33	13	4	4
Income Levels	9	15	27	25	26
Tax Base		27	35	18	22
Public Expenditures	10	17	32	20	23
Size	38	28	15	10	11
Service Base	10	16	19	30	27
Borrowing Capacity	2	17	17	28	38

To "Index of Tax Effort": The urban and densely populated communities which developed as the mining industry expanded, are characterized by relatively high rankings. Surrounding townships with lower population densities and lower tax rates show a generally lower ranking.

To "Index of Income Levels": About 50 percent of the anthracite communities are in the two lowest rank groupings and less than 10 percent in the highest. The "low" to "moderately low" income level rankings are particularly concentrated in the communities of the Southern and Middle Anthracite Fields. Higher rankings may generally be observed for communities in the Northern Field, where economic diversification has had a greater impact.

To "Index of Tax Base": While many anthracite communities are concentrated in the lower quintiles, with the highest concentration in the middle or "moderate" position, none are represented in the highest quintile. The greatest number of lower ranking communities are in Schuylkill County, followed by Northern Lackawanna and the Nanticoke area of Luzerne County. A marked dichotomy between the rankings for the Pocono and the Anthracite areas may be observed.

To "Index of Public Expenditures": A rather mixed pattern can be observed with high ranking communities in certain areas of the Pocono Region and lower ranking communities in rural areas adjacent to major urban areas. While anthracite communities are more concentrated in the lower than in the higher rankings, no particular pattern may be observed.

To "Index of Size": The correlation of population size and community net debt, provides for a high ranking of anthracite communities reflective of their urban character.

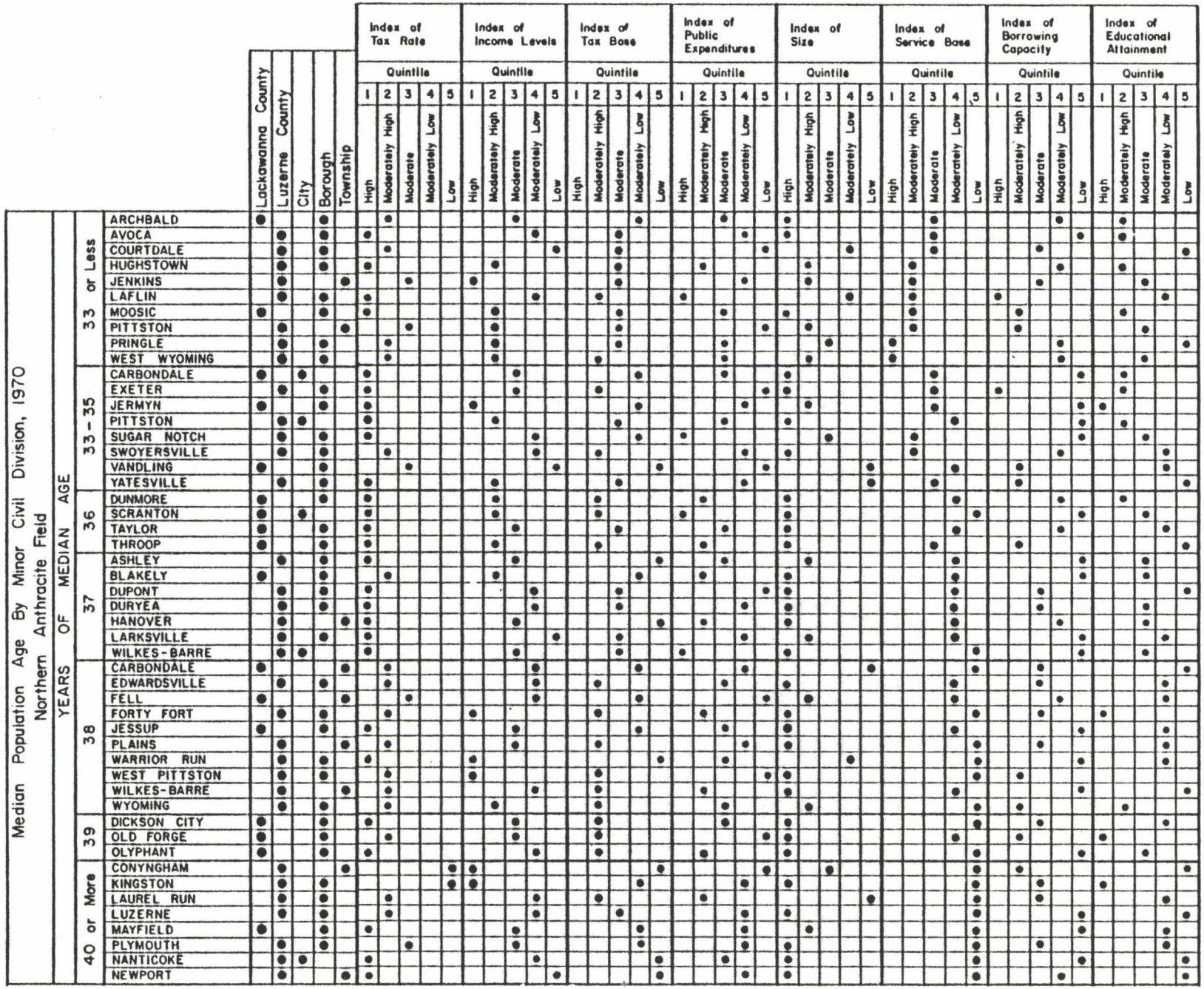
To "Index of Service Base": Due to a large age dependent population, communities of the Northern and Middle Anthracite Fields are particularly represented among lower ranking communities.

To "Index of Borrowing Capacity": Commensurate with low rankings in the "Index of Tax Base" Factor, anthracite communities are particularly represented in the lower quintiles.

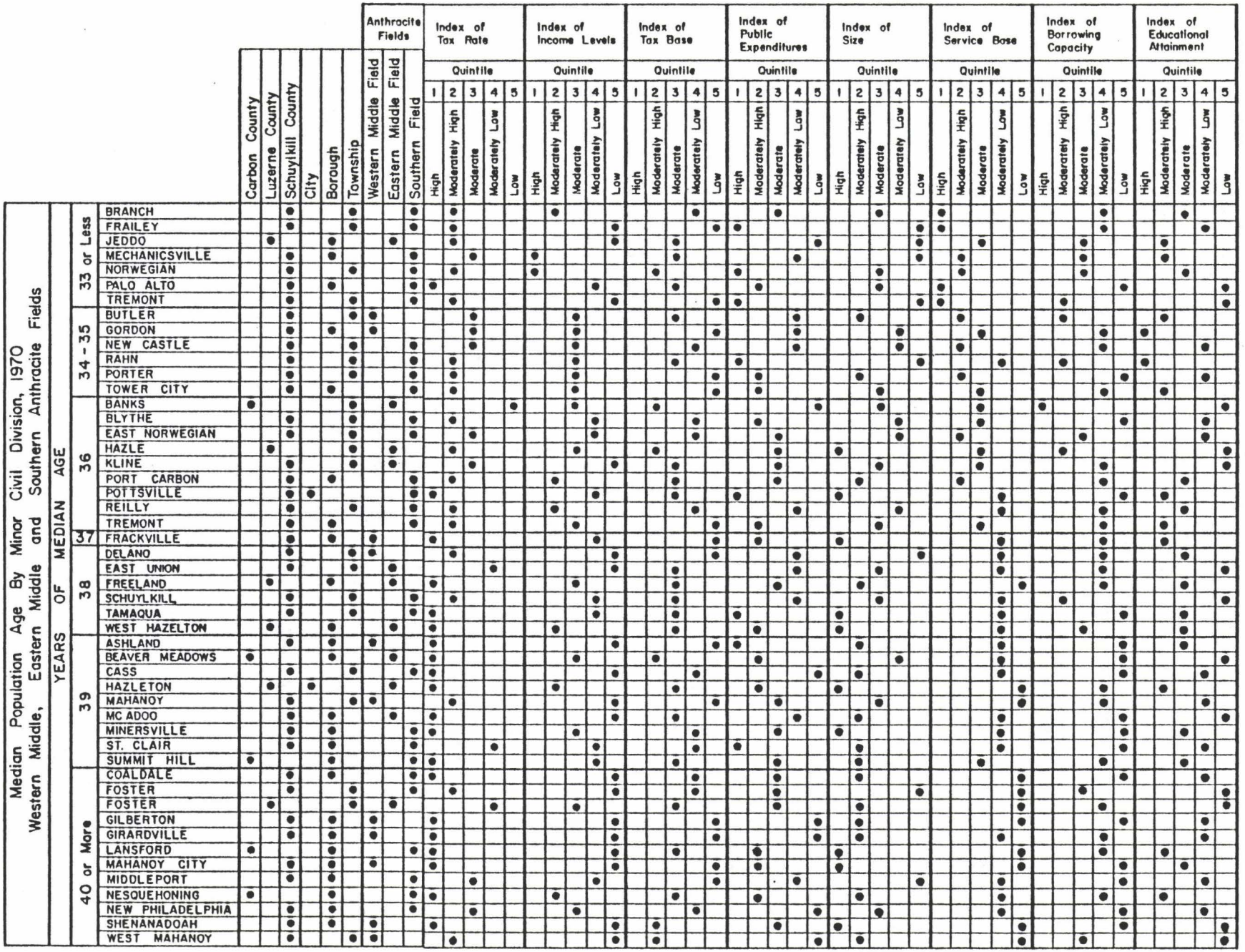
While differences in socio-economic conditions between anthracite and non-anthracite communities are most pronounced in the Middle and Southern Fields, the anthracite region as a whole may be characterized by high tax rates, low per capita public expenditures, low tax base, low borrowing capacity, low income levels, and high age dependencies. This leads to the conclusion

- that those recreational project and activity choices which require the least capital outlay would have the best chance to succeed,
- that, especially for more ambitious projects, anthracite communities would have to rely on outside funding assistance, and
- that regional project funding program priorities might be determined on the basis of relative degree of fiscal handicaps as implied by the following charts.

REGIONAL FACTOR ANALYSIS RANKING OF ANTHRACITE COMMUNITIES BY QUINTILES AMONG THE 266 MINOR CIVIL DIVISIONS OF NORTHEASTERN PENNSYLVANIA - NORTHERN ANTHRACITE FIELD, 1970



REGIONAL FACTOR ANALYSIS RANKING OF ANTHRACITE COMMUNITIES BY QUINTILES AMONG THE 266 MINOR CIVIL DIVISIONS OF NORTHEASTERN PENNSYLVANIA - WESTERN MIDDLE, EASTERN MIDDLE, AND SOUTHERN ANTHRACITE FIELDS, 1970



IV. SYNTHESIS - RECREATION NEEDS AND OPPORTUNITIES

INTRODUCTION

As a balance to the hard life in the coal mines and related industries, the anthracite region's towns and their surroundings offered many opportunities for cultural, social, and outdoor recreational experiences. Not only did their inhabitants have access to a large number of amusement parks and country resorts accessible by street cars, but they also could enjoy year-round recreational, social, and cultural pursuits within their own neighborhoods or communities which included such centers as opera houses or attractive public squares. Some of these places and associated activities still represent prominent childhood experiences for many area residents.

While the social experiences of beergardens and corner taverns have managed to survive the area's economic woes, few of the other recreational opportunities of the past remain, at least not at the same scope and quality. Many of the public open spaces and neighborhood parks have fallen prey to neglect and vandalism. One example of such neglect is the Park Avenue park in Wilkes-Barre which still shows traces of artistic stonework and expensive landscaping, but which, several years ago, was sold by the City as a building site because of vandalism and maintenance problems.[16] Nay-Aug Park in Scranton, on the other hand, was partially destroyed and severed by a public project, i.e., I-81.

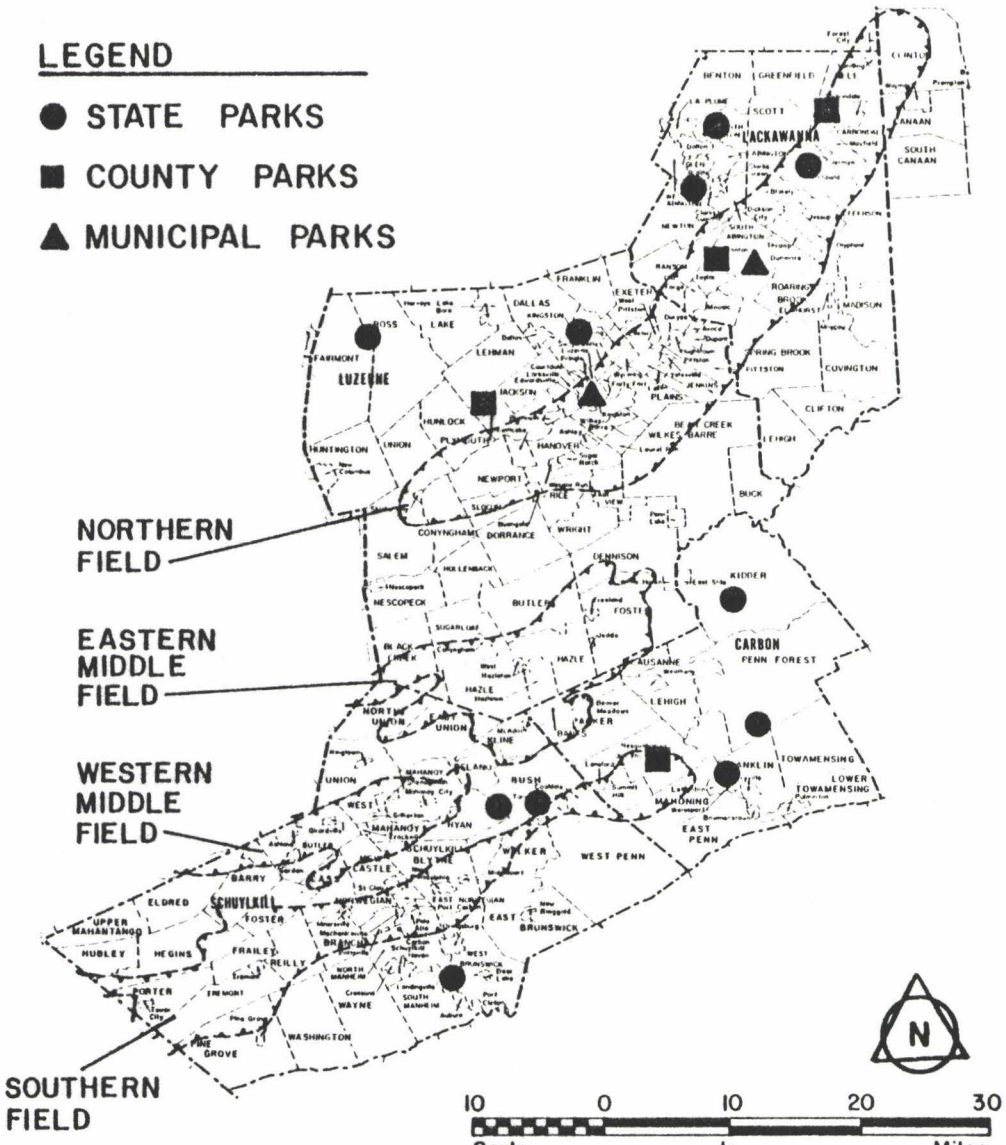
THE CURRENT SITUATION

The decline of urban recreational opportunities in the anthracite communities has not only occurred within the framework of overall economic decline. It has also been brought about by the emergence of automobile oriented activity patterns, and a trend of thought which was no longer sensitive to the idea that urban communities should provide more than merely housing, jobs, and shopping facilities.

While urban recreational opportunities were permitted to continue to decline, new regional parks emerged in rural areas outside the anthracite region's population centers where such parks have no accessibility except by private automobile, and where they are not closely related to community social fabrics and daily activity patterns.

Yet, according to a survey by the Pennsylvania Department of Community Affairs concerning the spatial distribution of recreational activities in Pennsylvania:[17]

- While nearly 70 percent of all public recreation occurs close to home or within the local community, and
- While over 80 percent of the recreation activities of low-income and elderly persons as well as of minors, and nearly 90 percent of all recreation activities of persons in no-car households, occur on local recreation sites,
- less than 2 percent of the recreational lands in Pennsylvania are owned and operated by local communities.



SOURCE: Outdoor Recreation Facilities In Northeastern Pennsylvania - 1976
Economic Development Council Of Northeastern Pennsylvania

STATE, COUNTY AND LARGE MUNICIPAL PARKS, ANTHRACITE FIELD COUNTIES NORTHEASTERN PENNSYLVANIA, 1976

According to Chapter III, consumer groups whose leisure activities occur to over 80 percent within their neighborhood or community, i.e. elderly and low-income persons, are strongly represented in the Anthracite Region. If one further adds the relatively low automobile ownership ratio, and the previously discussed fiscal limitations of anthracite communities, the discrepancy between local recreation demand and supply may far exceed that of the State.

On the other hand, the existing nodes and once well appointed urban public spaces of many old mining communities, could be viewed as important cultural, esthetic, and recreational resources. The churches and many ethnic and fraternal organizations and their associated structures play an important role, as well as the beergardens and corner taverns. Similar importance may be assigned to strategically located open spaces which consist of surviving public parks and squares, of certain new recreation sites (especially in the larger communities), and of. . . mine wastelands. The latter, due to their spatial interrelationships with human settlements, provide significant opportunities for urban greenbelts and recreational open spaces throughout the anthracite region.

Such opportunities are enforced by a retained distinction between "town" and "country" due to the region's extended economic depression and the post-World War II construction lags which limit the amount of "urban sprawl" experiences elsewhere. If one considers mine wastelands as a significant untapped resource of urban open space, one may arrive at wasteland recycling policies which are directed at the strengthening and revitalization of urban centers by providing the open spaces people normally seek (but do not always find) when moving to "suburbia."

SUGGESTED NEEDS AND POTENTIALS

If the reclamation of wastelands for recreation is to be viewed within a total community context, including considerations for the revitalization of anthracite towns and villages, project programs might be derived from such questions as:

- Why do some persons feel embarrassed about being from community X? [18]
- How can they obtain a better image of their hometown through creative leisure pursuits and community involvement?
- What are the social and recreational needs of the elderly in an area of high concentration of this group?
- What are the social and recreational needs of youngsters in an area which is not particularly youth oriented?
- What are the effects of unfulfilled recreational needs on juvenile alcoholism, vandalism, and other forms of deliquency?
- How do recreational experiences relate to all other experiences of those living and/or working in a community?
- How can new life be attracted to declining communities through the enhancement of the overall living environment?

Fiscal, economic, social, and cultural determinants of anthracite communities indicate potentials for the type of recreational activities which require a minimum of capital outlay, and a maximum of human

and institutional involvement. The age characteristics of the anthracite populations indicate a need for those forms of "passive" and "active" recreation which are of value to the elderly and middle aged, and which also provide stimulating experiences for young persons who now have "no place to go."

According to discussions with several social, religious, ethnic, and civic leaders, there appears a need for those recreational opportunities which provide conducive outdoor settings in which members of all age groups can experience each other, where the young and the elderly (many living alone) can lose their sense of isolation through informal socializing and the sharing of an environment different from those environments related to the daily chores of living. This experience could be augmented by active volunteer participation in reclaiming land for recreation.

Informal discussions with local residents revealed that the psychological problems related to isolation are particularly strong during the long winter season. The need for year round outdoor recreation opportunities was identified.

Anthracite wastelands within or adjacent to existing neighborhoods could potentially satisfy some or all of the previously outlined needs. Their reclamation could result in city and neighborhood parks which provide for all-season leisure walks, for safe bicycling, for sitting areas for games of chess, checkers, dominoes, etc., for benches in the shade of a tree from which the play of children in a large sandbox, for instance, could be observed. Such parks could provide a place for persons of all ages to take their children, grandchildren, pets, etc. for a walk (walkways should be smooth and comfortable to provide for handicapped persons and persons with baby-carriages). Through appropriate revegetation, a wasteland park could offer opportunities for also observing other forms of life, e.g. birds and small wildlife.

In terms of more active forms of recreation, there could not only be opportunities for various court and field games, hiking, sledding, door-to-door cross country skiing, snowshoeing, trailbiking, etc. but also for intensive gardening or for the development and monitoring of "adventure playgrounds." The latter normally requires a significant amount of involvement by several age groups and the creative reuse of generally discarded materials.

CANDIDATE ACTIVITIES AND THEIR REQUIREMENTS

Each activity needs space, certain topographic conditions and, in many instances, a proper orientation. However, specific dimensional and topographic requirements apply to only certain activities and associated facilities. The table on page 44 shows examples of recreation facilities for which spatial and topographic requirements are predetermined. These requirements refer only to the activity itself. The extent of additional space needs for "aprons" around the activity field to provide for access, circulation, and separation must be determined for each individual project, as well as the need or desirability for additional

EXAMPLES OF RECREATION/SPORTS FACILITIES WITH PRE-DETERMINED REQUIREMENTS

	ACTIVITY TYPES	COURT OR FIELD DIMENSIONS	INTERNAL DIMENSIONS	WALL REQUIREMENTS	OTHER REQUIREMENTS
COURT GAMES	Handball-4 wall court	20' x 40'	(NA) *	20' high	Level Area
	Handball-1 wall court	20' x 34'	(NA)	16' high	Level Area
	Jai Alai	55' x 176'	(NA)	4 walls-40' high	Level Area
	Squash	18½' x 32'	(NA)	3 walls-16' high on front and sides 1 wall-6½' high on end wall	Level Area
	Basketball	50' x 94'	Baskets: Rims inside diameter is 18" Rims must be 5/8' in diameter Basket height-10 feet from floor to rim	None	Level Area
	Badminton	44' x 20'	5 ft. high net	None	Level Area
	Boccia	120 foot square	6 alleys - 20' x 120' Balls - 5 inches	None	Level Area
	Softball	Distance from base to base - 60'	46 feet from pitcher's mound to plate	None	Level Area
	Shuffle Board	52' x 6'	Line - 6 feet from end triangle - 12 feet from base line	None	Level Area
	Lawn Tennis	Retangle 27' x 78'	Height of net-3 feet Service line-21 feet from net	None	Level Area Open Field
	Curling	14' x 146'	(NA)	None	Level Ice
	Ice Hockey	85' x 200'	Size of goal mouth-6 feet wide Height of goal-4 feet	Boards of 48 inches in height should be constructed	Level Ice
FIELD GAMES	Soccer	80 yds. x 120 yds.	Goals-8 yds. wide Goal area-20 yds.	None	Level Area Open Field
	Rugby	75 yds. z 160 yds.	Goal lines-11 yds. apart End Zones-25 yds. each Goal posts-18' 6" apart-11' high Cross bar-10' above	None	Level Area Open Field
	La Crosse	70 yds. x 110 yds.	Goal area-15 yds. from end line	None	Level Area Open Field
	Baseball	Distance from base to base-90'	Distance from home plate to pitchers box-60' 6" Home plate size-17" x 17" Plate to backstop-not less than 60'	None	Level Area Open Field
	Football	53 1/3 yds. x 120 yds.	Goal line to goal line-100 yds. Height of goal posts-20 feet Cross bar height-10 feet	None	Level Area Open Field
LINEAR ACTIVITIES	Cross Country Running (High School)	1½-3 miles	(NA)	None	Any terrain, path, or roadway can be used.
	Cross Country Running (College)	3-7 miles		None	
	Track	¼ mile	110 yd. straights 110 yd. curves 24 feet wide under path	None	Level Area Cinder path or wood planks for indoor track

SOURCE: World Book Encyclopedia, 1974

*(NA) - Not applicable

spaces to provide for:

- seating areas (especially where spectators may be involved)
- landscaping
- parking (depending on the number, origin, and travel mode of simultaneous users and/or observers)

For most activities, other than court and field games, the requirements provide for a certain degree of flexibility. Although many planning documents prescribe definite space standards on a facility - or person per acre basis,

> "the traditional acre per population standards are now commonly known to be unrealistic and limited in scope. One new way of looking at recreation is the 'component concept' for comprehensive recreation planning. This approach treats recreation as an activity, an experience . . . *concerning* all the recreational opportunities in a community *and including* physical, social, environmental, cultural-educational, and esthetic-creative experiences."[19]

Recreation activity space allocations should be sensitive to user needs and values, community and site characteristics, and local capabilities, rather than to rigid standards. A suggested outline for facility planning considerations is shown on page 47. A chart of this type provides a tool for choosing among candidate activities and activity locations.

In selecting activities and their locations, further considerations must be given to any potential problems and hazards derived from the site's past mining and reclamation history. Breaker, deep mine, and strip mine sites entail different problems which should be ascertained by further study of a candidate site.

A further important consideration relates to the impact of one activity on adjacent ones, or on nearby neighborhoods. Some activities can have beneficial or adverse impacts on certain other activities. Such considerations are not only important for location choices, but also for activity grouping and/or separation. For instance, activities creating noise and/or air pollution are incompatible with those activities which thrive in relatively quiet unpolluted environments. If one further considers the more and more recognized health hazards of certain noise levels, the physical separation of noise producing activities appears of vital importance.

Many wasteland sites are large enough to provide for those recreational demands incompatible with certain other activities. Thus, while most anthracite wastelands offer ideal conditions for trailbiking (a currently observed major activity on these lands which is increasingly being jeopardized by "no trespassing" signs), they also offer the opportunity for appropriate buffering and physical segregation of activities with adverse environmental impacts, and of incompatible activity pairs.

● Highly Compatable (Mutually Benefical) Compatable ✳ Slightly Incompatable X Highly Incompatable ○ Same Site, Different Time	FISHING	READING	NATURE STUDY	WALKING	HIKING	JOGGING	BICYCLING	SWIMMING	PICNICKING	FREE PLAY	COURT AND FIELD GAMES	ICE SKATING	TOBOGGANING	RIFLE SHOOTING	CARNIVAL	TRAIL BIKING	SNOW MOBILING
FISHING						✳	✳	✳	✳	✳	✳	✳	✳	X	X	X	X
READING														X		X	○
NATURE STUDY				●	●	✳	✳		✳	✳	✳	✳	✳	X	X	X	X
WALKING			●			⊛	⊛			⊛			⊗	⊗		⊗	⊗
HIKING			●				✳							X		X	X
JOGGING	✳		✳	⊛			✳							X		X	X
BICYCLING	✳		✳	✳	✳	✳								X		X	X
SWIMMING	✳								●			○		X		X	○
PICNICKING	✳		✳					●		●	●			X		X	○
FREE PLAY	✳		✳	⊛					●					X		X	○
COURT AND FIELD GAMES	✳		✳						●					X		X	○
ICE SKATING	✳		✳					○						X		○	X
TOBOGGANING	✳		✳	⊗										X		○	X
RIFLE SHOOTING	X	X	X	⊗	X	X	X	X	X	X	X	X	X			X	X
CARNIVAL	X		X														
TRAIL BIKING	X	X	X	⊗	X	X	X	X	X	X	X	○	○	X			○
SNOW MOBILING	X	○	X	⊗	X	X	X	○	○	○	○	X	X	X		○	

EXAMPLE FOR ACTIVITY PAIRING ACCORDING TO DEGREE OF COMPATIBILITY

The illustration above is an example of how compatibilities or incompatibilities among activities might be perceived.* On this chart, which may be augmented or modified by its user, an attempt has been made to arrange activities in ascending order from those with least likely adverse impacts to those with the greatest adverse impact on the enjoyment of adjacent areas.

A chart of this type may be developed for a particular set of candidate activities desired by a community, so that the symbols in the squares can be provided by potential recreationists. The final chart to provide the basis for activity location plans would be a synthesis of all response received.

The solution to problems of conflict between each activity pair may range from minor physical separation to maximum spatial segregation, or to different activity timing. For instance, walkers and joggers may not very well get along on the same path, but could coexist on two adjacent paths. On the other hand, if by local habit, or through regulatory means, these activities occur during different times of the day, the use of the same path would not create any conflict.

Certain activity pairs are naturally separated because they occur at different seasons. For others, the question of spatial vs. chronological separation depends on the amount of suitable land available for each, and on local policy determinations and enforcement capabilities.

The chart on the opposite page indicates the types of environmental factors which may be important for the selection and siting of candidate recreation activities other than those with specific requirements (page 44). This chart may be modified according to particular project planning needs.

*A matrix of this type, including some 50 activities, was circulated among all EDCNP staff members with the request to indicate, for one or more favorite activities, which other activities they would or would not like to occur in close proximity. The example chart represents a summary of received responses.

EXAMPLES OF RECREATION ACTIV

AND ASSOCIATED PLANNING

PHYSICAL NEEDS AND/OR PREFERENCES

RECREATION ACTIVITIES / FACILITIES	SPACE NEEDS				SPACE CONFIGURATION					TOPOGRAPHY					VEGETATION					POTENTIAL LANDSCAPE							OTHER ENVIRONMENTAL NEEDS OR PREFERENCES												UTILITY NEEDS				ACCES			
	FIXED ACTIVITY SPACE	FLEXIBLE ACTIVITY SPACE	ACCESSORY SPACE	BUFFER SPACE	IRREGULAR, ANY	CIRCULAR	RECTANGULAR	SQUARE	(CURV.)LINEAR	LEVEL	MILD SLOPE	ROLLING	STEEP SLOPE	IRREGULAR	LITTLE OR NONE	TURF	SCRUBGROWTH	DECIDUOUS BROADLEAF TREES	EVERGREEN CONIFEROUS TREES	BARREN FIELD	MEADOWLAND	GROVE	WOODLAND, DECIDUOUS	WOODLAND, CONIFEROUS	WOODLAND, MIXED	RICH VARIETY	OTHER	WATER(APPROPRIATE QUALITY)	GOOD SURFACE DRAINAGE	GOOD SUBSURFACE DRAINAGE	FLOOD PLAIN	NON-FLOOD PLAIN	SUN EXPOSURE	(PARTIAL) SUMMER SHADE	NORTHERN SLOPE	SOUTHERN SLOPE	PROPER GROWTH MEDIA	UNIQUE VISUAL FEATURES	UNIQUE BIOLOGICAL FEATURES	SOLITUDE	OTHER	WATER, SEWER DISPOSAL	ELECTRICITY	TELEPHONE		PEDESTRIAN	BICYCLE	PUBLIC TRANSIT	AUTOMOBILE
ADVENTURE PLAYGROUND																																													
AIRPLANE MODELS																																													
ALLOTMENT GARDENS																																													
ABBORETUM																																													
ARCHERY																																													
ARTS AND CRAFTS FESTIVAL																																													
BANDSHELL																																													
BICYCLING TRAIL																																													
BOTANICAL GARDEN																																													
BRIDLE PATH																																													
CARD GAMES, CHECKERS, ETC.																																													
COURT GAMES																																													
FIELD GAMES																																													
FISHING																																													
FREE PLAY																																													
HANG GLIDING																																													
HIKING																																													
ICE SKATING																																													
JOGGING																																													
KITE FLYING																																													
NATURE STUDY																																													
OFF ROAD VEHICLES																																													
OUTDOOR THEATRE																																													
PARK BENCH																																													
PET AREA																																													
PICNIC AREA																																													
ROCK FESTIVAL																																													
ROCK/MINERAL HUNT																																													
SCENIC OVERLOOK																																													
SHOOTING RANGE																																													
SKATEBOARD																																													
SKIING-CROSS COUNTRY																																													
SKIING-DOWN HILL																																													
SLEDDING																																													
SNOW SHOEING																																													
"STREET GAMES"																																													
SUN-AIR BATHING																																													
SWIMMING																																													
TOBOGGANING																																													
TRACK																																													
WALKING																																													
WILDLIFE SANCTUARY																																													
OTHER																																													

NOTE: ONLY CERTAIN ACTIVITIES, SUCH AS COURT GAMES (TENNIS, SOCCER, ETC.) ENTAIL SPECIFIC REQUIREMENTS, ESPECIALLY IN TERMS OF SPACE DIMENSIONS. MANY OF THE SPATIAL, ENVIRONMENTAL, ETC. REQUIREMENTS OR PREFERENCES, SHOWN ON THIS CHART REPRESENT EXAMPLES BASED ON SUBJECTIVE JUDGEMENTS RATHER THAN RIGID STANDARDS. WHILE A CHART OF THIS TYPE CAN BE VERY USEFUL FOR THE PLANNING AND DECISION PROCESS OF A RECREATIONAL MINE-WASTELAND RECLAMATION PROJECT, MANY OF THE SPACES SHOULD BE FILLED OUT ON THE BASIS OF LOCAL VALUES AND CONDITIONS.

● ESSENTIAL ○ DESIRABLE

V. IMPLEMENTATION POTENTIALS

INTRODUCTION

The preceding chapters provided suggestions on how to determine

- the types of activities for which anthracite wasteland might be particularly suitable, based on physical and ownership characteristics
- the types of recreation experiences which might be particularly suitable for the social, psychological, and physical needs of anthracite community residents, and
- the physical requirements for particular activities.

Analyses of this type by and for a particular community and its wasteland, in combination with a citizen participation element, provide the basic tools for

- the development of community recreation goals and objectives
- the selection of priority project site(s), and
- the development of initial sketch plan(s).

While a good sketch plan may reflect the ultimate desires of a community, restrained only by general perceptions of site suitabilities and constraints, the development of a successful project may entail sketch plan modifications and refinements based on considerations of feasibility. A feasibility examination should identify elements of the sketch plan which could be implemented rather immediately with available resources, elements which may become implementable at a later date, and elements which may never be implementable. As a result, a refined site plan would emerge, as well as short-range and long-range implementation plans, including a program for project development staging.

The major inputs into the refined site plan and the project development staging plan may entail

- an environmental engineering study of the proposed site
- an inventory and evaluation of community fiscal, institutional, and human resources, and
- an inventory of outside funding and technical assistance sources.

These items are the topic for the following discussion.

ENVIRONMENTAL ENGINEERING STUDY

A wealth of pertinent environmental data are available from existing research[20] by colleges, State agencies, and industrial groups. Furthermore, many of the investigations and assessments leading to a project can be made by members of the community. However, there is usually a point at which particular professional expertise is needed which, in many cases, can only be provided by a consultant. The analyses, goal formulations, etc. mentioned above will put the community in a position to determine the type of consultant needed, and the specific tasks he should perform. (While this outline assumes the involvement of environmental engineering expertise after a project site has been selected, certain situations may call for the involvement of such expertise during the site selection phase.)

The environmental engineering study should entail an assessment of the proposed site uses on the basis of topographic, hydrologic, geologic, climatic, and soils conditions, existing and potential vegetation, water quality (if the site includes a stream and/or pond), pollutants and their sources, existing health and safety hazards, etc. The end result of the study would be a set of alternatives and associated costs, including methods and costs of dealing with existing hazards. In an ideal case, design solutions might be found to overcome any environmental inpediment towards a site's ultimate recreational end use. However, in most cases, the design and selection of alternatives will be a matter of trade-offs between the principles of maximizing recreational satisfaction and minimizing costs.

INVENTORY OF HUMAN AND

INSTITUTIONAL RESOURCES

If one assumes extremely limited fiscal capabilities of anthracite communities (see pp. 35 to 38), major local reliance might be placed on human and institutional, rather than monetary resources.[21] An inventory and evaluation of local civic, religious, fraternal, ethnic, and service club organizations will provide an assessment of the extent of institutional leadership and volunteer participation that could be expected for certain aspects of project management and site preparation. For certain State and federal financial assistance programs, such volunteer efforts can be applied as local matching share.

The environmental engineering assessments, site plan alternatives and associated cost requirements provide the background for evaluating available and potential resources in dealing with these alternatives. Such evaluation should lead to the selection of a course of action to maximize desirability and feasibility.

Non-financial sources of assistance may also be provided by such organizations and programs as the Youth Conservation Corps, Job Corps Centers, Boy and Girl Scouts, the National Guard, etc. Some of these organizations, especially the latter, may also be able to provide equipment and operators useful for certain reclamation and site modification tasks.

TECHNICAL AND FINANCIAL ASSISTANCE SOURCES

Inventory and Evaluation

A number of State and federal agencies provide technical and/or financial assistance programs which may relate to one or more aspects of mine wasteland reclamation, of the development of recreation projects, or of related projects such as revegetation, reforestation, wildlife preserve development, etc. An inventory of such programs, which could satisfy a variety of assistance needs, is presented in Appendix C. To this inventory, other programs may be added as indicated by particular project requirements, or as they become available in the future. An evaluation of these programs and their potentials could result in

- a funding package capable of implementing part or all of a particular plan and its underlying goals and objectives,
- a reformulation of goals and objectives according to available assistance sources, or
- a combination of these.

Application and Funding Processes

Practically each assistance program has its own application, review, and funding process and its own time schedules relative to each step in this process. Depending on the time of project initiation, and on the considered funding source, or combination of funding sources, it may take from one to well over two years until applications for specific project elements are approved or rejected.

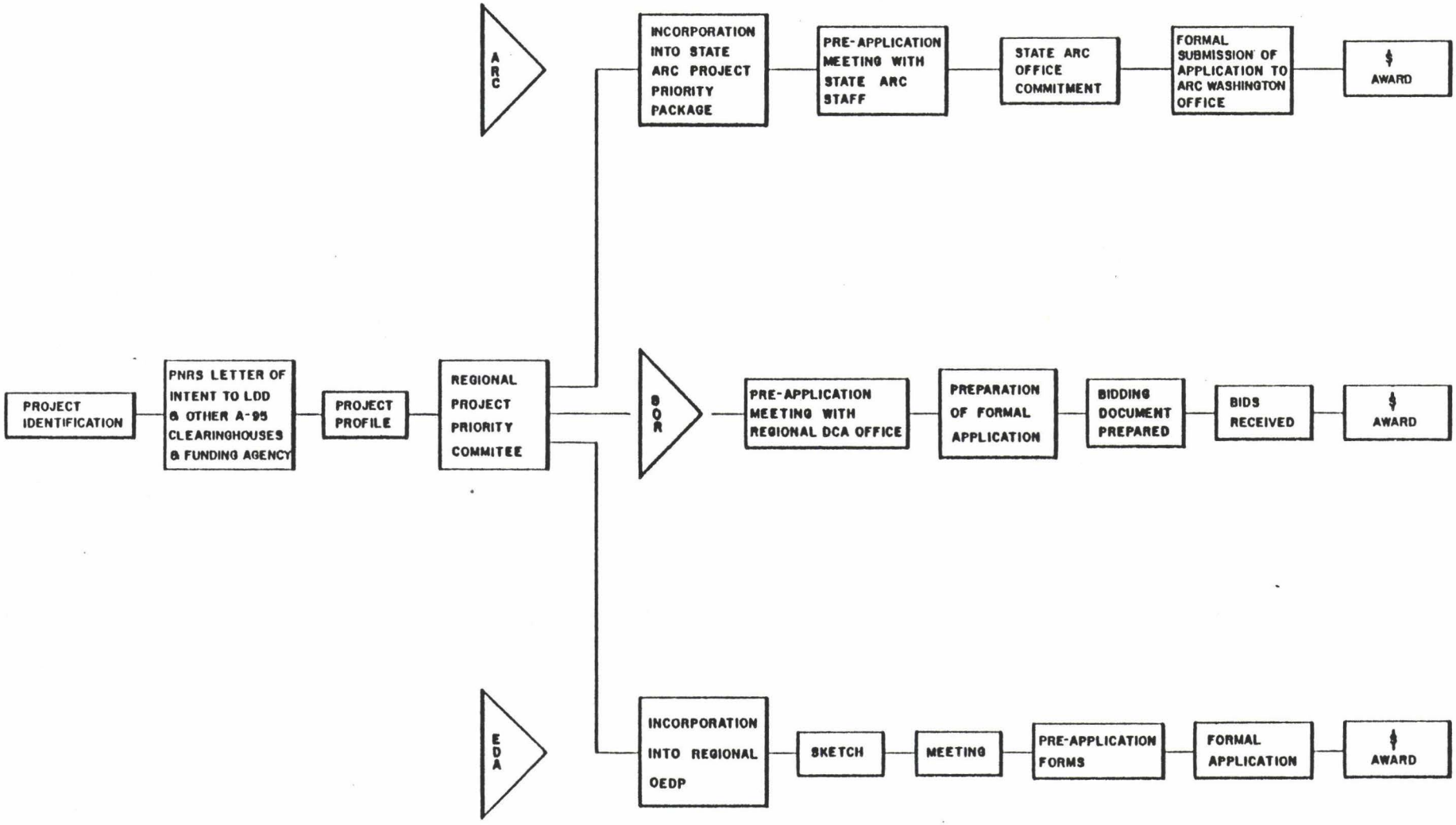
For the following illustration, we assume that a city or group of communities in an area of chronic unemployment and low family income decides to channel its human, institutional, public and private sector resources into the reclamation of an available mine wasteland area for a large recreation park. Partially, this park should serve adjacent neighborhoods, partially, it should attract tourist industries and those industries which prefer to locate where employees would like to live and recreate. The new industries will have a multiplier effect on the area's economic status and the creation of job opportunities.

The assumed wasteland area includes abandoned strip mine(s) which have to be reclaimed, refuse bank(s) with materials of potential economic value, and relatively large water filled strip pit(s) with possibilities for fishing, boating, etc. There is a need for reforestation of certain areas, as well as for other projects which relate to the protection and development of land and water resources, and to resource conservation. There is also a need for certain public works and community facility projects, for specific neighborhood recreation facilities, and for an access road to the regional highway system to facilitate regional and tourist traffic. It is further felt that optimum site development, and the choice and location of major facility investments should be determined by a feasibility study, including the feasibility of reclaiming the culm bank materials and its implications.

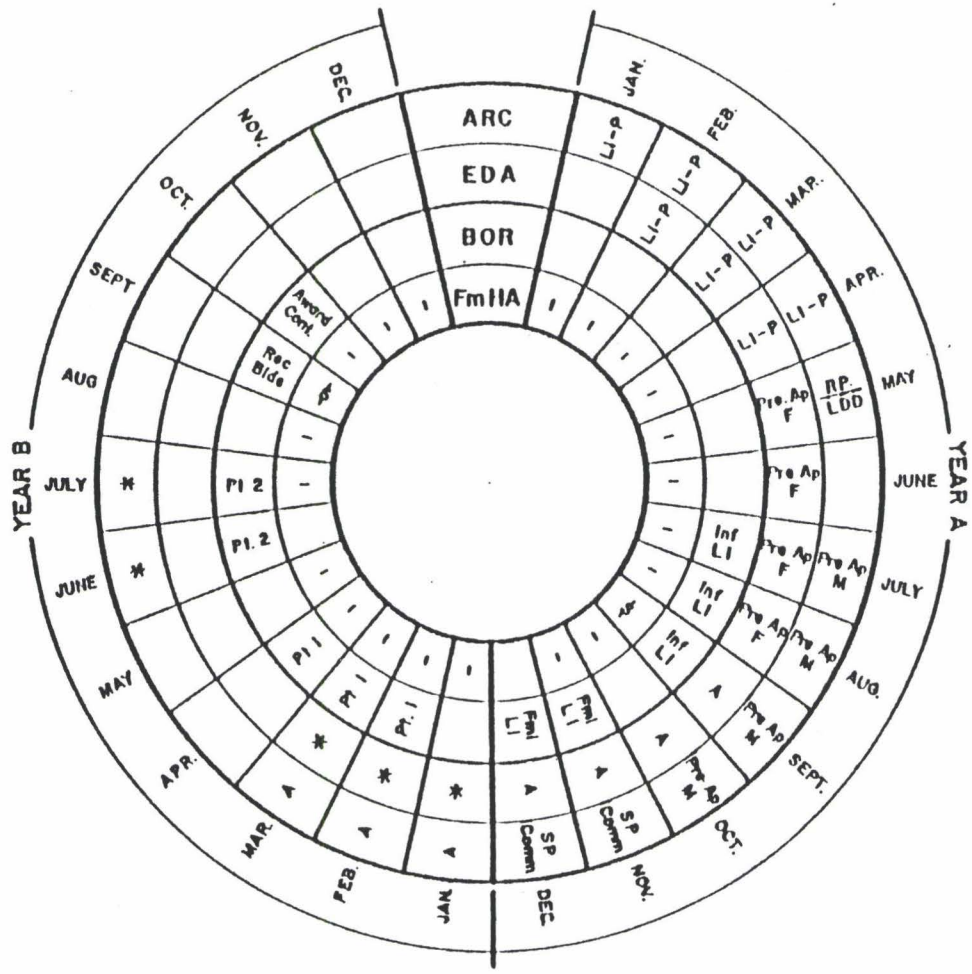
An examination of federal and State programs may lead to an initial inventory and summary description as shown on the opposite page, and to funding process and time flow diagrams as shown on pages 54 and 55. Such diagrams can provide a basis for effective project management planning.

SUGGESTED FUNDING PROGRAM PACKAGE FOR A HYPOTHETICAL RECLAMATION - RECREATION PROJECT

SOURCE	PROGRAM SUMMARY	USUAL FUNDING PROCESS SCHEDULE
LAND AND WATER CONSERVATION FUND	BOR (Bureau of Outdoor Recreation in the U.S. Department of the Interior) provides, through DCA (State Department of Community Affairs), 50% funding for eligible projects as determined annually by DCA. Traditionally, municipal and neighborhood parks received high priority ratings in Pennsylvania.	DCA's regional offices accept applications and "Informal Letters of Intent" during July through September. Upon review, sponsors with "eligible" projects are invited to submit a "Formal Letter of Intent" which indicates a funding commitment by DCA. During the next nine months, the regional DCA office assists in the preparation of formal applications.
APPALACHIAN REGIONAL COMMISSION (ARC) PROGRAMS	Section 201B - Access Road Program provides 70% funding for a recreation area access road which meets PennDOT (Pennsylvania Department of Transporation) requirements and is in public ownership. Section 205 - Mining Area Restoration Program provides up to 75% funding of eligible project costs including strip mine reclamation and culm bank removal. Priorities are geared towards industrial and commercial development. Recreation end-use projects are considered relative to their impact on employment opportunities. Section 214 - Supplemental Grants provides up to 30% eligible cost funding for priority projects related to social and economic development, and for up to 80% supplemental funding of most federally funded programs.	Applicant submits "Letter of Intent" and "Project Profile Form" to the LDD (Local Development District, e.g. Economic Development Council of Northeastern Pennsylvania) during January through April. During May, the LDD Board of Directors evaluates all submissions and establishes a regional priority list or "Project Package." (Later revisions are possible with LDD Board's approval). After pre-application meetings of the Bureau of Appalachian Development (BAD) and the State Department of Commerce during July through October, BAD prepares a statewide Project Package for submission to the ARC Washington office. Applicants with high priority projects are requested to prepare formal applications. Official approvals occur in June or July.
TITLE I PUBLIC WORKS AND DEVELOPMENT PROGRAMS	EDA (Economic Development Administration of the U.S. Department of Commerce) provides up to 60% funding for eligible projects. Such projects must promote the economic health of areas with high unemployment rates and low family incomes.	The LDD receives "Letters of Intent" during February through April. Upon review, it requests pre-application forms on "eligible" projects during May through August, and prepares a project priority list for submission to the regional EDA office. Sponsors of projects with favorable EDA reviews are requested to submit formal applications during September through December. Approvals occur in January or February.
EDA TECHNICAL ASSISTANCE GRANTS	EDA provides up to 75% funding for eligible technical assistance project costs. These include feasibility studies on combining natural, human, and other resources in productive enterprises. Recreation and tourism development projects of substantial economic impact can be eligible.	The LDD receives "Letters of Intent" and "Project Profile Forms" during March through May. Upon review by the LDD and the regional EDA office, sponsors of "eligible" projects are requested to submit formal applications during June through August. Approvals occur in September.
FARMERS HOME ADMINISTRATION (FmHA)	Resource Conservation and Development Loans for projects in SCS (Soil Conservation Service) designated areas which are of community benefit and contribute to economic improvement. Watershed Loans for projects to protect and develop land and water resources in small watersheds (flood control, reservoirs, irrigation canals, easements, etc.) Soil and Water Conservation Loans for land and water development programs, forestation, irrigation, and related land and water use adjustments. Recreation Enterprise Loans to develop recreation areas, including swimming, fishing, boating, and camping facilities. Community Facility Loans for various community facility projects.	Farmers Home Administration has a rolling grant and loan program with no locked calendar schedule. "Letters of Intent" should be submitted to the county Farmers Home Administration representative as early as possible so that they may be considered upon fund appropriations.



TYPICAL FUNDING PROCESS FLOW DIAGRAM



ARC		EDA		BOR		FmHA	
APPALACHIAN REGIONAL COMMISSION (SECTIONS 201 B, 205, 214)		U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION		U.S. DEPARTMENT OF INTERIOR BUREAU OF OUTDOOR RECREATION		U.S. DEPARTMENT OF AGRICULTURE FARMERS HOME ADMINISTRATION	
LI-P	Letter of Intent - Profile Form	LI-P	Letter of Intent - Profile Form	Inf LI	Informal Letter of Intent to Agency	–	Rolling Review of Application
RP/LDD	Regional Priority List	Pre Ap F	Pre Application Form (Written)	Fml LI	Formal Letter of Intent to Agency	$	Funds Allocated to Agency
Pre Ap M	Pre Application Meeting (Oral)	A	Application Preparation	PI 1	Part 1 Application - Master Plan		
SP Comm	State Priority List	*	Approval of Grant Application	PI 2	Part 2 Application - Bid Preparation		
A	Application Preparation			Rec Bids	Receive Bids		
*	Approval of Grant Application			Award	Award Contract		

TYPICAL FUNDING PROCESS TIME FLOWS, 1977-1978

VI. HOW TO DEVELOP A PROJECT

INTRODUCTION

The following discussions are based on concrete examples, and show how site selection and site plan development might proceed for a given situation. The example area used for the outline of a site selection process is a large urban community (over 100,000 residents) with nine major mine spoil areas (about 2,600 acres in aggregate) from which selections could be made. The example for a site planning process is an abandoned mining site adjacent to a small community (about 1,200 residents) of high population concentration, where the site could become a focal point for community activities.

The following "How To's" represent applications of many of the observations presented in preceding chapters, and of most of the elements shown on the flow chart on page 2. However, these applications should not be viewed as recipes, because each situation is, to some extent, unique, and each group of project initiators and citizen participants has its own set of values and means of accomplishment. Each project should be based on a fresh perception of problems, potentials, objectives, constraints, and optimum solutions.

HOW TO SELECT A SITE - AN EXAMPLE

Chapter II provided an overview on the kinds of situations to expect when looking at anthracite waste lands and recreational end-use potentials. Chapter III presented social, cultural and economic conditions prevalent in anthracite communities with reference to likely recreational needs. Chapter IV outlined major elements which should be considered in planning for recreational activities. All of these considerations are important during various stages of a site selection process.

For the purposes of the following discussion, we assume that the project initiator is a group or agency concerned with the enhancement of living conditions in a particular community. Such enhancement relates to many facets of community life, including economic and environmental conditions. We further assume that this community has a variety of wasteland areas from which to chose. The selection process might entail the following phases:

Step I. Site Inventory and General Assessment

The inventory provides an overview over the amount of land from which a selection could possibly be made. The general assessment relates to the two pronged questions of:

- What is the highest and best use for each site according to its internal and external characteristics and in terms of community objectives, and
- Which sites are most suitable for a particular use, i.e. recreation?

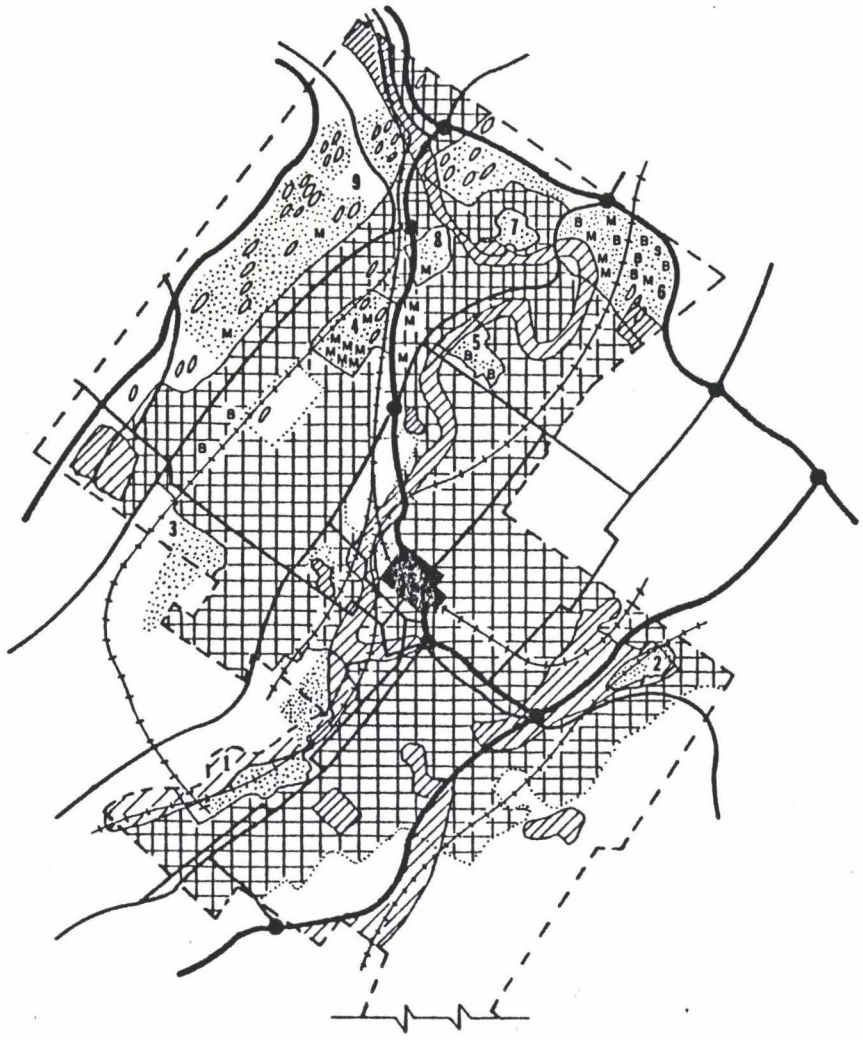
If the community has a comprehensive plan, answers to the first part of the question may be inherent in this plan. Examples of factors which may be extracted from a local comprehensive plan report, are presented on the following page. For instance, if one of the plan's objectives is industrial expansion, and if the community's industrial land reserves are limited to mine waste lands with advantageous access,-utility,- and topographic conditions, such sites may either

- be eliminated from the inventory of potential recreation sites, or
- weighed in terms of industrial and recreational community objectives.

The latter is particularly relevant, if a site with industrial potentials also happens to be the "best" site for recreation in terms of its characteristics and location. Concerning overall community objectives and the availability and suitability for various uses of other land areas, the choice of candidate sites may be a compromise between finding the "best" recreation site and the best of those sites which cannot easily be reclaimed for other purposes.

The current evaluation relates to the general identification of the "best" candidate recreation sites. (The screening of such sites for particular activities occurs in combination with the identification of social needs and preferences).

Waste land characteristics identified in Chapter II, procedures indicated in Chapter I,



MINE SCARRED LAND
M- MINE REFUSE
B- BREAKER REFUSE
S- SILT
O- STRIPPING PIT
UNDEVELOPED LAND

DEVELOPED LAND
CENTERAL BUSINESS AREA
PLANNED OPEN SPACE AND PRESERVATION AREA
HIGHWAY
RAILROAD

EXAMPLES OF A CITY'S MINE WASTE LANDS IN RELATIONSHIP TO CITY'S COMPREHENSIVE PLAN CONSIDERATIONS

		AREA IDENTIFICATION NO.								
		1	2	3	4	5	6	7	8	9
OWNERSHIP	Redelop. Auth.	●								●
	City		●		●		●	●	●	
	ID Group			●						
	Railroad			●					●	
	Private	●	●	●	●	●	●	●	●	●
Size (Acres)		386	139	230	181	69	645	72	46	800
Average Slope (%)		18	20	10	10	5	10	8	10	15
AVAILABLE UTILITIES	Water	●	●	●	●	●	●	●	●	●
	Sewer	●	●	●	●	●	●	●	●	●
	Power	●	●	●	●	●	●	●	●	●
	Rail			●	●	●				
PUBLIC ACCESS	Roads	●	●	●	●	●	●	●	●	▲
	Sidewalks	●			▲	●	▲	●	▲	
	Transit	●		●	●	●	●	●	●	●
Relation to City Open Space Plan		●	●		●	●	●	■	■	●
NON-RECREATION POTENTIALS	Industrial			●	●	●	●			
	Commercial									
	Residential				●		●			
	P R.D.									●

● APPLICABLE
■ ACQUIRED FOR RECREATION WITH PROJECT 70 FUNDS *
▲ PARTIALLY APPLICABLE

SOURCE: CITY OF SCRANTON, BUR. OF CITY PLANNING, MASTER PLAN OF THE CITY OF SCRANTON, 1975 AND VARIOUS UNPUBLISHED MAPS.

* SEE FOOTNOTE 8

and relationships summarized on the opposite diagram suggest the following site evaluation factors to which others may be added:

- Site ownership characteristics
- Hazard potentials from
  - geologic conditions
  - past mining and reclamation practices
- Site use constraints
- Material recovery potentials
- Current and potential revegetation
- Size and topography
- Pedestrian accessibility
- Vehicular and public transit accessibility
- Proximity to intended site users
- Relationship to community open space plan
- Alternative end-use potentials and community values concerning recreational vs. non-recreational and uses
- Neighborhood acceptance

A weighting system of these criteria would lead to the elimination of certain sites, and the prioritization of others.

For instance, if the agency undertaking the project does not want to deal with any site acquisition problem, only sites in the appropriate type of public ownership, such as the two Project 70 sites shown on the preceding chart would qualify as candidate sites. If the agency is willing to engage in some negotiations, sites owned by another public agency, such as an industrial development (ID) group might also qualify, if its merits for recreation are superior to a city owned site. Further weightings may be assigned to other forms of ownership outlined in Chapter II.

If, on the other hand, user accessibility is of prime importance, only the most accessible sites may be considered and then weighed against the remaining factors, including those of potential acquisition problems. Generally, candidate sites may be selected on the basis of meeting the greatest number of those criteria suggested above, according to specific weights assigned to each.

Step II. Community Recreational Needs Assessment

On the basis of available data, especially published and unpublished U.S. census data, the community's major social, cultural, and economic characteristics may be identified as shown in Chapter III. These characteristics provide certain indicators for likely recreation requirements and preferences, and the forms of recreation in which community members are physically and economically able to participate.

Fiscal characteristics, as outlined in Chapter III, provide an assessment for the level of recreation facilities and services a community may be able to provide, and the magnitude of likely unfulfilled needs.

Such analyses provide a background for the identification of candidate recreation activities. Ideally, the list of such activities should be refined by means of a community survey through interviews, informal meetings, or questionnaires. Such surveys should provide answers on the types as well as the extent of desired facilities. For instance, if walking is a preferred activity, how much, in terms of miles, represents a valuable walking experience? What is the likely demand for picnicking, free play, court and field games, nature watching, etc.? Some of the space requirements deducted from such a survey can be projected into future space needs by relating the conclusions to population trends.

Step III. Evaluation of Site Suitabilities for Desired Activities

The charts on pages 44 and 47 provide tools for the evaluation of site and location requirements for various activities against which candidate sites may be evaluated. Basically, the question is:

- Which site has the potential of providing the most suitable conditions for the greatest number of desired activities at the least modification cost?

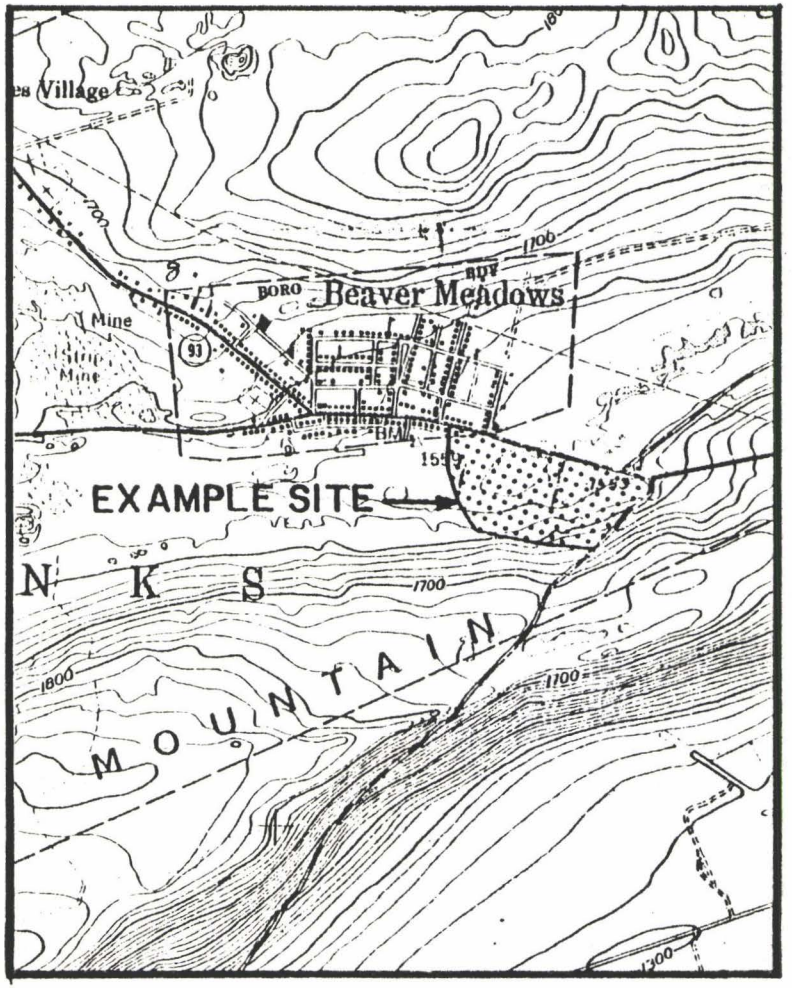
The final site selection then rests on a weighing of activity suitability factors against those factors indentified under step 1 above.

Step IV. "Nailing Down" the Site

Once a priority project site has been determined, negotiations have to be made with its current public or private owner for its use and/or acquisition. If no mutually acceptable agreement can be reached, negotiations are initiated for the second priority site, etc., until agreement can be reached for a particular site.

Not all of the phases outlined above are of equal importance in each situation. The more sites from which to choose to serve a particular user group, the more sophisticated should be the selection process. The fewer the sites from which to choose, the more simple the process.

In the following example, the major site selection criteria related to accessibility, proximity to community residents, a tradition of site use for informal recreation, and attractive features such as a pond and "ready made" areas for walking, nature watching, berry-picking, etc. Negotiations with the coal company owner are leading to an agreeable price for a certain number of acres. The price the community is willing and able to pay is influenced by the amount of outside fund reservations it could obtain for site acquisition. The final choice question, on which section of the site should be acquired, rests on the results of an environmental engineering study.



GEOGRAPHY OF EXAMPLE SITE

HOW TO DEVELOP PLANS FOR A SELECTED SITE - AN EXAMPLE

A successful project on an anthracite waste land site in a typical "anthracite community" may serve as a model and inspiration for other communities. The example selected for the following discussion is a site in the Eastern Middle Field, adjacent to the Borough of Beaver Meadows which appears particularly ripe for active community involvement. According to Borough Council members and the Carbon County Planning Commission, interest in this site for public recreation has been strong for many years. As shall be shown later, the site portrays several conditions typical for anthracite waste lands, and is conducive to certain types of recreation experiences.

This example was selected for the following presentation because of its current stage in the planning process which would make it possible for an interested reader to observe the process through its various stages. The example was also selected, because the characteristics of anthracite communities described in Chapter III, are strongly represented in the intended user community of this project. As shall be shown later, the user community is characterized by:

- Extremely high population density
- Extremely high median age
- Significant population decline
- Significant ethnic minority concentration
- Low household income profile
- Low fiscal factor analysis ranking

Socio-Economic Community Characteristics

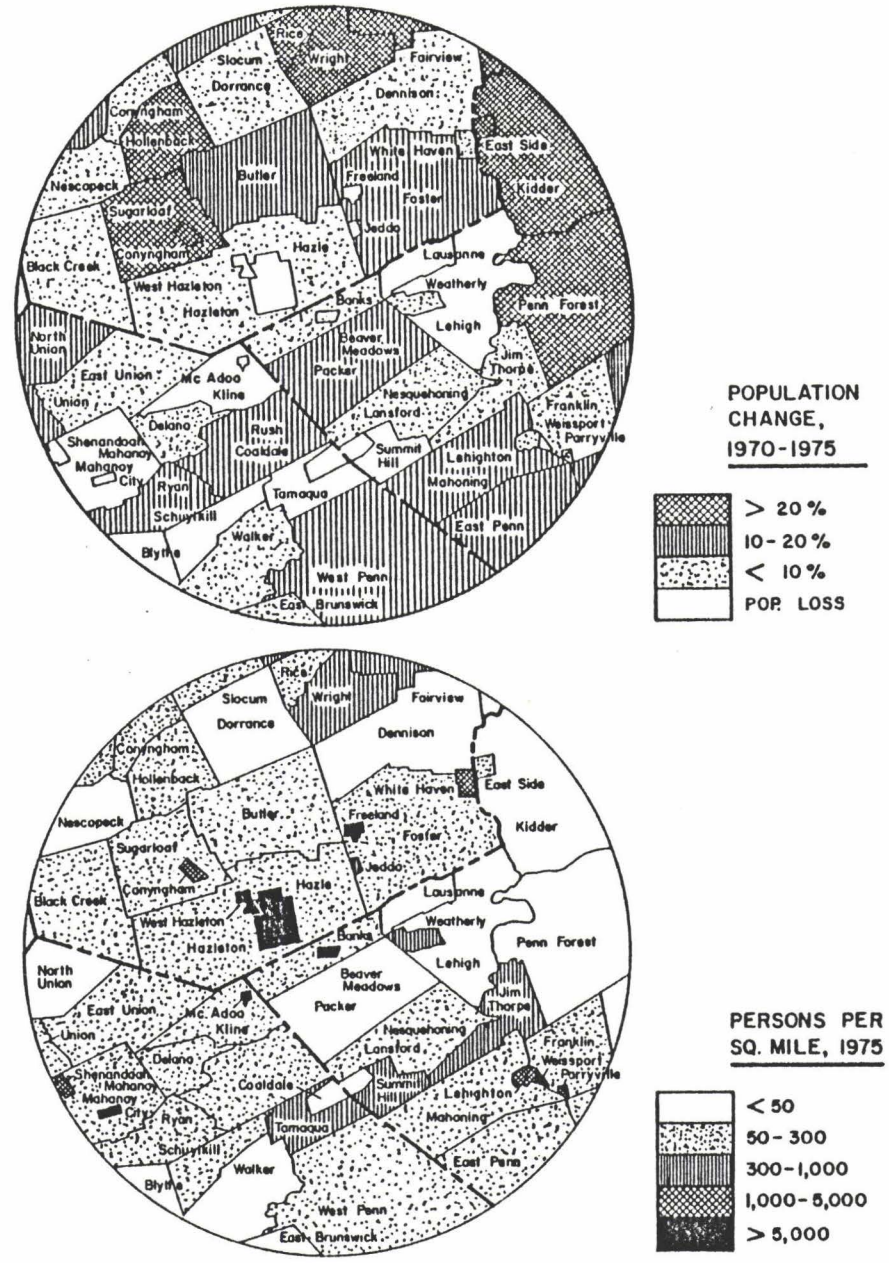
Beaver Meadows is a small Borough in Carbon County of less than 1,300 inhabitants nestled in the southeastern out-skirts of the Eastern Middle Anthracite Field. It is partially surrounded by a large strip mine area which stretches from a point west of Kelayres in Schuylkill County to a point slightly east of Beaver Meadows, encompassing a length of about eight miles, and an average width of about one mile.

Population Density and Change. - In land area, Beaver Meadows, with only about 130 acres, is one of the smallest incorporated places in the region. In 1970, it had the highest population density in Carbon County, and the 13th highest among the 266 municipalities of Northeastern Pennsylvania, inspite of significant population declines during past decades.

Population Trends, Beaver Meadows, 1930-1973 [24]

	Population	Percent Change	Population per sq. mi.
1930	1,890		9,450
1940	2,030	+7.4	10,150
1950	1,723	-15.1	8,615
1960	1,392	-19.2	6,960
1970	1,274	-8.5	6,370
1975	1,169	-8.2	5,845

The opposite map diagrams show Beaver Meadows as a "population node" in an immediate area of relatively low density, and as a declining



PATTERN OF POPULATION CHANGE AND DENSITY BY MCD WITHIN 15 MILES OF EXAMPLE SITE

SOURCE: 1970 and 1975 U.S. Census Population Estimates

community surrounded by areas of modest to significant new growth. Generally, this new growth occurs at the periphery of the Eastern portion of the Eastern Middle Anthracite Field in rural townships where environmental conditions, including those of "prime" agricultural lands, are particularly advantageous for urban type development.

New growth occurs in the face of continuing decline in the older population centers to which it can present serious threats of competition. Further, there may be little chance for social or economic interactions between a small town like Beaver Meadows and the new growth areas surrounding it, because the latter are likely to be oriented towards the larger center of Hazleton. Yet there is also Dr. Lewis's claim that

> "*small towns*, although they are sick, are far from dead *and represent* . . . important tangible reminders of who we Americans are and where we came from--not in the form of sanitized 'historic' restorations, but as organic members of the American landscape."[25]

However, there can be a margin between "not dead" and "alive," and within this margin falls the topic of community-wide action to create valuable leisure pursuits. In a densely populated town which does not have much open space, mine waste land can provide a meaningful resource. Its recreational reuse can stem population outmigration, because there is "something to do."

Population Age Characteristics. - The population declines of the post-anthracite era left Beaver Meadows with a high representation of persons near retirement age and a low representation of young persons. Although the proportion of persons over 65 years of age in Beaver Meadows is, at nearly 13 percent, representative for that of the County and the Northeastern Pennsylvania region, available data show a significant over-representation of persons in their late 50's and early 60's. On the other hand, less than 28 percent of the Beaver Meadows population is under 18 years of age, compared to 31 percent of the County population, and 29 percent of the Northeast region's population.

The Borough's 1970 median age was 39 years, compared to 36 years for Carbon County or Northeastern Pennsylvania. This is quite high even by comparison with other anthracite communities. (According to the charts on pages 31-32, the 1970 median age was below 39 for 68 percent of all anthracite communities, and for nearly 90 percent of those anthracite communities which experienced a 1960-1970 population increase.)

Ethnic Characteristics. - The fact that nearly half of the Borough's 1970 population did not claim English as mother tongue provides a measure for the relative strength of some ethnic subgroup(s). (According to local representatives, Slovac seems to be the major identification) According to the map on page 28, and the chart on page 32, in no community of the Eastern Middle Field appear ethnic representations as strong as in the Boroughs of Beaver Meadows and McAdoo (Schuylkill County)

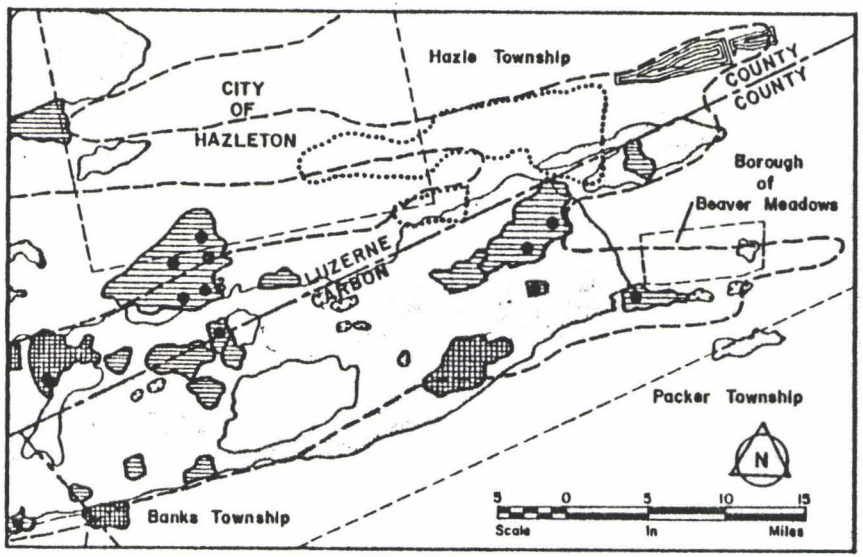
Fiscal Characteristics. - The 1969 median income of $7,900 for families, and of $1,900 for unrelated individuals, the 1970 per capita real estate market value of $1,581, and related socio-economic conditions placed Beaver Meadows into a relatively low rank order position vis-a-vis the other 265 municipalities in Northeastern Pennsylvania. The overall Factor Analysis ranking,[26] as summarized on page 38, indicates that 175 of the region's communities showed a greater degree of economic well-being than Beaver Meadows in 1970.

On the other hand, the Factor Analysis shows that Beaver Meadows improved its relative position since 1960, when 193 communities were better off. In the forth quintile for each of the two analysis years, Beaver Meadows fared "well" relative to contiguous Banks Township which, at rank 217 for 1960, and 229 for 1970 has been in a declining position within the fifth quintile.

In Conclusion. - By comparison with nearby communities, the characteristics of Beaver Meadows, outlined above, are somewhat unique. At this broad level of analysis, there are no indications for common problems and interests. The closest community with similar characteristics in terms of population age, rate of population change, ethnic minority representation, and low fiscal status is McAdoo in Schuylkill County. Any potential inter-community cooperation could relate to those recreation programs for which a short driving distance (about 7 miles) does not matter.

In terms of recreational needs and potentials, those activities would be of particular merit which

- relate to the everyday living experience of a highly concentrated population within walking distance,
- appeal particularly to persons of upper middle age, (unless there is a local policy to attract new residents to which the project should be related),
- could muster the support and volunteer efforts of local ethnic and other participants,
- would not require significant capital outlays, unless outside assistance programs provide for funding.



DISTURBED AREAS IN THE SOUTHEASTERN REGION OF THE EASTERN MIDDLE ANTHRACITE FIELD

- OUTCROP OF LLEWELLYN FORMATION
- ABANDONED STRIPPING (UNRECLAIMED)
- ABANDONED REFUSE BANK
- ACTIVE REFUSE REPROCESSING FOR COAL
- ACTIVE DUMPING AREA
- STRIP PIT
- NON-MINING RELATED WATERBODY
- STRIPPABLE LAND
- AREAS OVER LLEWELLYN FORMATIONS UNAFFECTED BY STRIPPING

Source: H.R.B. Singer Inc. Atlas of Mining Activity and Atlas of Strippable Coal Lands in The Pennsylvania Anthracite Region, Science Park, State College, Pa. 1975

Physical Site Characteristics

The selected project site is located southeast of Beaver Meadows and south-adjacent to TR 93. In addition to direct highway access, the site is within walking distance for over 1,200 local residents. It is located in an area of relatively level topography with a general slope of less than 8 percent. The site itself includes a level area, as well as mild slopes, a steep stripping hole, a strip pit which has formed into a spring-fed pond, and a portion of an abandoned refuse bank.

In terms of soil conditions, about 90 percent of the site is covered by mine waste materials left from the strip mining operations which continued until the mid-1960's. The remainder of the site lies within the area of the Hazleton-Edgemont-Buchanan Association[27] which includes and partially surrounds Beaver Meadows and covers most of the non-strip-mine area of Banks Township. This area is characterized by a moderately deep to deep well-drained soil profile and favorable percolation rates.

In terms of vegetation, a major portion of the site is covered by high acid loving plants, including species of moss, rhododendron, mountain laurel, birch, as well as blueberries and related shrubs. The site also includes stands of five to ten foot pine trees which were provided by the Soil Conservation Service and planted by the Boy Scouts about ten years ago.

In terms of hydrology, a small portion of the site is within an area characterized by secondary ground water aquifer, while most of it is within the area of low yield formations which basically follows the outlines of the Eastern Middle Field. The site further includes the earlier mentioned mining related pond and a portion of Beaver Creek.

Recreational Needs and Potentials

Except for a playground, Beaver Meadows residents now do not have any public recreation facilities within easy access. In the past, community leisure activities in this and similar towns centered around the local school. The town's teacher(s) would play an active leadership role in community activities, including recreation events and related projects and programs. This important institutional, and human resource has been lost through recent school district consolidations, whereby Beaver Meadows residents now have to relate to schools in Hazleton. While schools may still provide recreation facilities and programs, such facilities have become less accessible to small communities. This fact alone should provide sufficient justification for the need for new "recreation close to home".

The availability of mine waste land and of human resources, in the form of a concerned and interested Borough Council, Carbon County Planning Commission and local civic groups provide the potential for such a project.

Current Site Use. - According to interviews with Borough Council members, County Planning Commission staff, and personal observations the site has, for many years, contributed to the recreation experiences of Beaver Meadows residents. It has been used for hiking and related experiences on a year-round basis, and for ice skating in the winter time. The existing walks and trails, including an abandoned rail spur, are well preserved through constant use. Since these trails are relatively level, they allow for easy walking for persons of all ages. Due to the surrounding vegetation, they also provide for bird and nature watching and berry picking.

More recently, a new user was introduced to the area -- the motorized trail biker who may (without proper planning, regulation, and enforcement) eventually expel other users who prefer more quiet forms of recreation, or who fear the inherent health (noise and air pollution) and safety (collision potentials) hazards. Anthracite waste lands close to population centers are attracting growing numbers of children on trail bikes, partially because they are not permitted on public streets, and partially because the territory offers interesting challenges. Many of the existing trails, especially those on old right-of-ways which, until a few years ago were mainly used by pedestrians, have been consummated by trail bikers during certain times of the year. Since the nearest facilities for off-road vehicles, to which these vehicles have to be transported, are ten to twenty miles away, the local demand for an off-road vehicle area is likely to continue.

Potential Recreation Uses and User Preferences. - The site, with its level areas, mild slopes, vegetation characteristics, ponds, etc. appears suitable for many of the activities suggested in Chapters II - IV. In terms of user needs and preferences, the identified major population groups provide for a stratified sample survey on the basis of age, sex, ethnic identification, etc.

An opinion survey can be in the form of questionnaires, group discussions, or by means of a town meeting. Representative population groups may be derived from religious or ethnic organizations (traditionally, local churches, often with specific ethnic orientations, have provided the incentive for recreation activities in anthracite communities), from major income or occupation groupings (occasionally, such groupings are

geographically identifiable, or through membership in vocational organizations), or major age groups.

The following is an example of stratification by age: According to unpublished 1970 U.S. census data,[28] the Beaver Meadows population can be divided into four groups of roughly equal size:

- Children under 15
- Teenagers and young adults between 15 and 35
- "Middle aged" adults between 35 and 55
- "Mature" adults of 55 and more years of age

One may reasonably assume that recreational interests and physical capabilities to participate in various activities will vary among these groups, and that each puts a different degree of emphasis on "active" and "passive" forms of recreation. One may further assume nuances within each group, particularly the first and the last of the above. For instance, young children play different games than elementary school age children, and teenagers. For the latter, a means of socializing, i.e. informal gatherings and discussions, may be just as important as active games. In terms of older adults, an emphasis on "strenuous" sports may be less important than some of the more "passive" and contemplative activity types. Further, the recreational interest and needs may differ for those of retirement age, because of the greater amount of leisure time at their disposal, from those below retirement age. The following chart shows a suggested distinction among age-specific recreation consumer groups:

Major Age Groupings Beaver Meadows, 1970

	Number	Percent
Pre-Kindergarten children (under 5)	108	8.5
Kindergarten to Elementary School (5-9)	113	8.9
Elementary-Young teens (10-14)	110	8.7
Older teens (15-19)	95	7.5
"Young" adults (20-34)	207	16.4
"Middle" aged adults (35-54)	303	24.1
Pre-retirement adults (55-64)	170	13.4
Retirement age adults (65+)	159	12.5
	1,265	100.0

Source: U.S. Census of Population 1970, Fourth Count Summary Tapes.

In addition to questions on preferred recreational activities by each consumer group, the survey should further address questions on preferred distances or proximities between activities and consumer groups, as suggested by the compatibility chart on page 46. For instance: how close would older people, engaged in a specific activity, like to be to specific activities of children, teenagers, or young adults. To what extent would the proximity of trailbikes enhance or limit the experience of a leisure walk? To what extent would the proximity of young children's games enhance an older persons's enjoyment of sitting on a park bench? If ice skating is an activity enjoyed by all age groups, should there be a spatial or time segregation between old and young skaters? Further, the survey should provide answers to perceptions of standards, as suggested by the chart on page 47. For instance, if walking is a desirable activity, how much walking and of what type? (e.g. what should be the length, width, slope, and physical environment of a walkway to reflect user values concerning walking experiences?)

Answers to these and similar questions would provide for the

- selection of candidate activities
- facility design and location standards
- spatial activity allocations on a site plan
- activity time management.

The user preferences, as indicated by a survey, should further be evaluated against currently available facilities and the extent to which they satisfy certain needs. For instance, to what extent does the existing playground in the Borough satisfy the needs of its consumer age group?

While the scope of this report does not provide for a user preference survey, the importance of user participation in the planning process is strongly emphasized. In the absence of such a survey, the following conceptions of need are derived from demographic data and discussions with members of the Beaver Meadows Borough Council and the Carbon County Planning Commission.[29]

On this basis, the assumption is made that the community's existing playground satisfies the needs of young children and that the mine-waste land site recreation plan should put priority on the needs of teenagers and the various adult groupings. On the basis of a-priori needs conceptions[30] and conceptions of affordability, the site should continue to provide for activities related to walking, ice skating, etc. It should generally provide for those activities of interest to the community's adult and teenage population, including, for instance, play field, baseball diamond, picnicking facilities, and landscaped areas where persons can relax and/or congregate, and a redefined pond area. A certain portion of the site might also be reserved for future installations as activity needs and financial capabilities may indicate.

Furthermore, local policy decisions regarding off-road vehicles are likely to be necessary. Should the community provide areas for trailbiking, snowmobiling, etc. and, if so, can it deal with the resulting environmental damages? On the other hand, if off-road vehicles are to be banned, can such a ban be enforced? What are the consequences of unplanned off-road vehicle use versus their use in designated areas?

> "Indiscriminate use of off-road recreational vehicles is now recognized as a growing national problem. An awareness of the problem is expressed by the President's Executive Order of 1972 and by efforts of the responsible Federal agencies. Further, biologists, geologists, soils specialists, hydrologists, conservationists, and land-use planners, among others, are available to gather technical facts required for reasonable management of ORV use. However, the ultimate responsibility for acceptable use of ORVs rests with every citizen. Each of us must learn to recognize the damage caused by ORVs, evaluate the management practices of the responsible units of government, and exercise influence on governments that hold our public lands in trust. The responsibility is not only to protect the land from further degradation but to enhance the benefits these lands provide."[31]

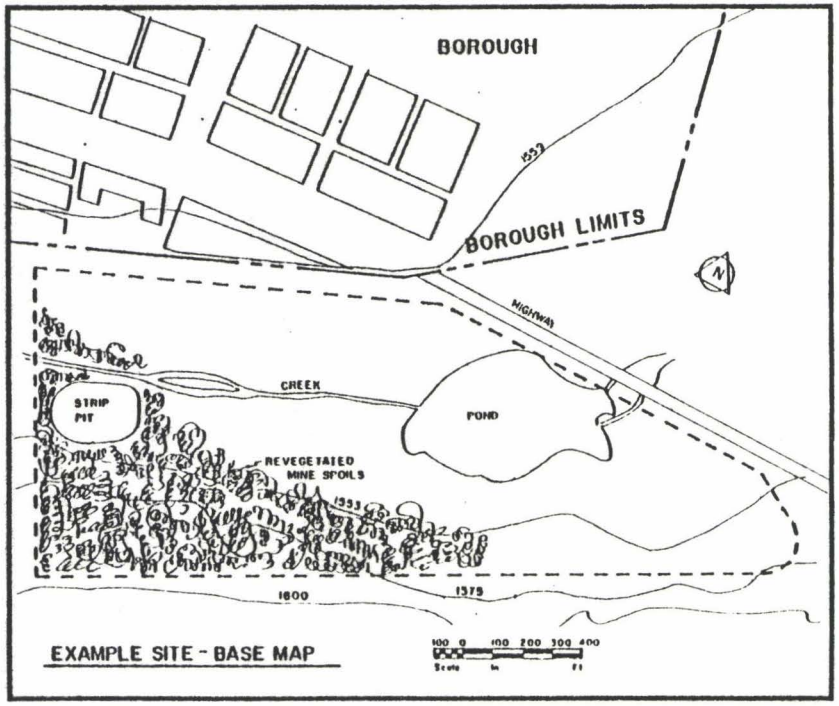
Sketch Planning

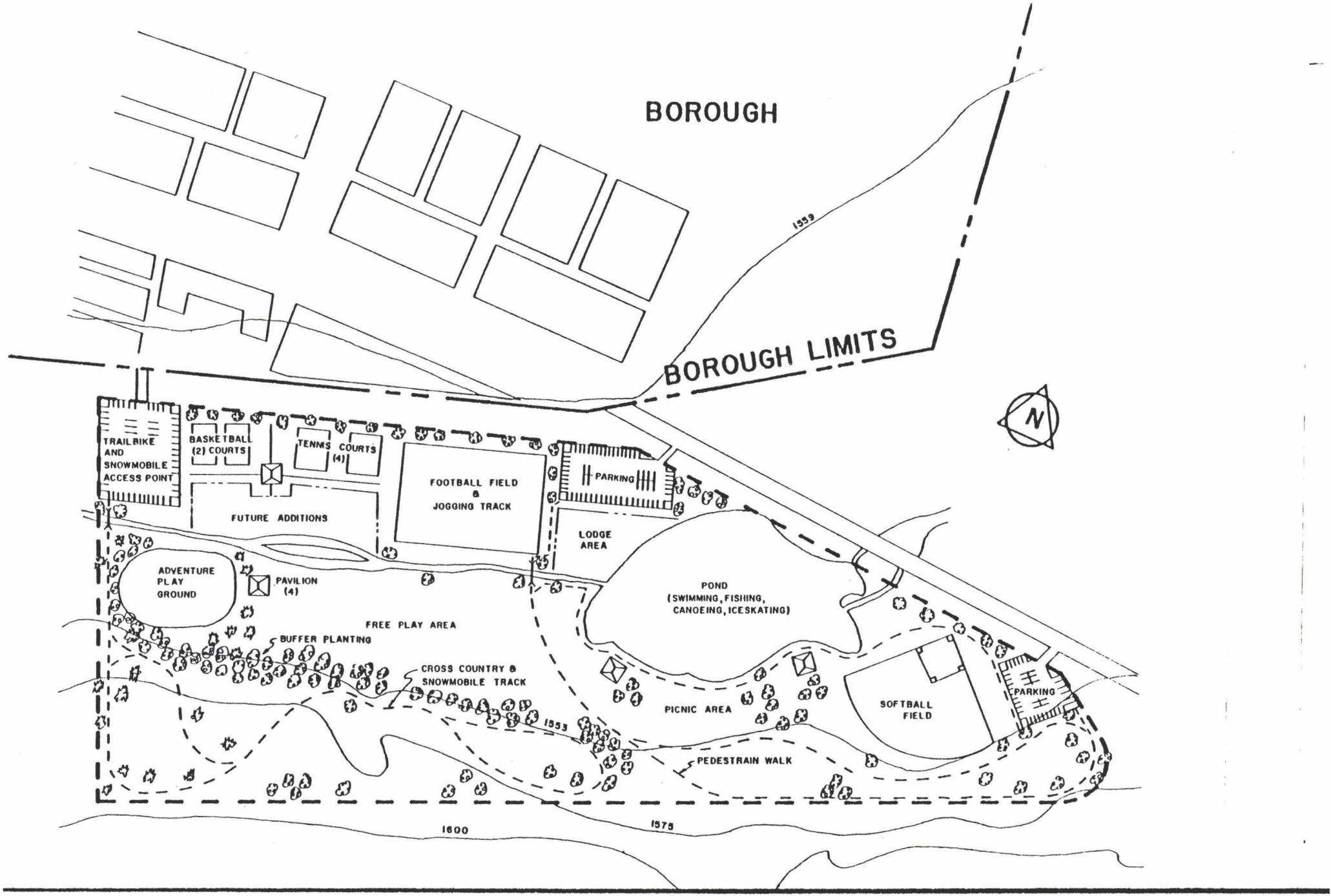
Community needs and desires, as perceived from earlier mentioned surveys, and from a basic knowledge of major site characteristics provide the basis for formulating recreation goals and objectives. These may be expressed in preliminary sketch plans. Charts of the types shown on pages 44-47 provide tools for assessing space,-location,-separation,-and environmental requirements of candidate site uses. Such uses and activities may be arranged on sketch plans to show

- how the site could ultimately be utilized because of its intrinsic potentials,
- how the site could be utilized according to current needs and desires,
- how the site could be modified to increase its potentials,
- how likely conflicts between certain desires or user demands might be resolved.

For the following examination, we assume basic site characteristics as shown on the opposite base map. Major features are the site's accessibility to the adjacent community, its pond, creek, vegetation, and strip pit. The strip pit may, because of its steepness, present the site's major hazard. With some modification, perhaps through widening the pit and using the fringe material to raise its floor, it may offer possibilities for sledding or trail biking challenges. It may also offer opportunities for an "adventure" play area or, more ambitiously, for an amphitheatre during the dryer seasons. Concerning the pond, some regrading could improve the shore line and result in a better defined pond area.

Possibilities for arranging various activities on the site are shown on two sketch plan examples on the following pages. Each example assumes that the southern wooded area should remain basically in its natural state and provide for trails, that the preferred location for picnicking should be adjacent to the pond, close to the "woods", and removed from the highway, and that certain provisions for off-road vehicle users should be made, inspite of inherent problems.

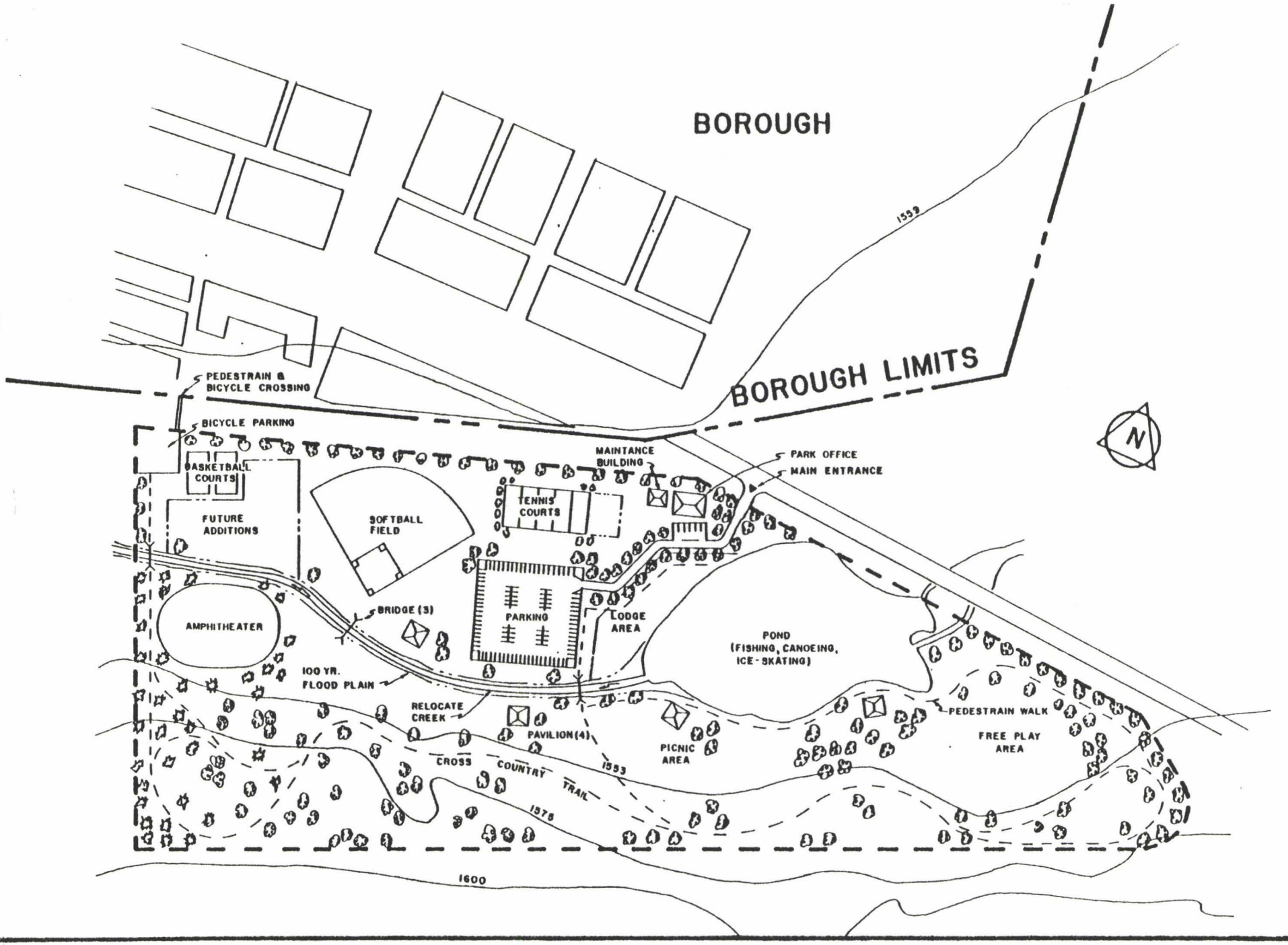




SKETCH PLAN ALTERNATIVE I

100 0 100 200 300 400

Scale In Ft



SKETCH PLAN ALTERNATIVE 2

100 0 100 200 300 400

Scale In Ft

Inspite of pedestrian accessibility for all community residents, both sketch plans also assume a need for parking spaces. Picnickers normally arrive by car, as well as out-of-town visitors to sports events, and off-road vehicle users, if they do not use public roads illegally. Each sketch plan further reserves some space for unanticipated future recreation demands.

Sketch Plan Alternative I represents an attempt to fit a maximum number of activities on the existing site. Parking is provided on two peripheral areas near the highway as well as on the eastern corner where off-road vehicles are delivered via a borough street to an area reserved for their use. (In the real-world situation, provisions would have to be made for crossing the railroad tracks along the southern borough limit.) Trail bikers would be physically segregated from hikers by means of separate paths, and from all other activities through dense buffer planting of appropriate vegetation.

Alternative II assumes rerouting of the creek to provide for better activity/facility spacing, for a general segregation of "active" and "passive" recreation pursuits, and for centralized parking with only one, rather than three automobile access points. Greater proximity between parking and picnicking appears of particular benefit, as well as between parking and an envisioned amphitheatre at the site of the stripping pit. This alternative does not provide a special area for off-road vehicles, but limits their use on the cross-country trail to specific times. These vehicles, especially trail and motorbikes, will help to firm and level the trails for greater walking comfort.

Citizen Participation

Sketch plans of this type could be presented to the community during public meeting(s). They should be large enough for public presentation and might include mylar overlays on which community members can, in chalk-talk fashion, present their own ideas. The result might be a new sketch plan which combines the "best" features of each alternative, or one which includes entirely new ideas stimulated by the presentation.

Environmental Engineering

The next step involves a sketch plan evaluation and refinement on the basis of an environmental engineering study as outlined on page 51. In the Beaver Meadows case, this study will not only relate to the technical aspects of site planning and site improvement requirements, but also lead to the final selection of the area to be acquired from a larger site.

Feasibility Evaluation and Plan Refinement

An investigation of human, financial, and technical resources for various aspects of the proposed project (Chapter V and Appendix C) provides a final input into plan selection and possible modification.

On the basis of current and likely future feasibilities as indicated by the engineering and assistance source studies, final long-range and short-range plans emerge. These plans could then be presented to the community for review and comments, possible revisions, and for the mustering of community participants in its implementation.

APPENDIX A - ETHNIC ANALYSIS

APPENDIX A-1

POPULATION BY REPORTED MOTHER TONGUE BY COUNTY, NORTHEASTERN PENNSYLVANIA, 1970

COUNTY	English	Polish	Italian	German	Russian	Hungarian	Other[1]	Total	Percent Non-English[1]
Luzerne	231,740	34,230	17,800	5,820	3,770	690	48,250	342,300	32.3
Lackawanna	161,530	17,090	17,790	4,680	4,920	470	27,630	234,110	31.0
Schuylkill	118,470	5,600	2,880	8,810	960	160	23,200	160,090	26.0
Carbon	36,720	1,260	1,010	4,500	350	250	6,470	50,570	27.4
Monroe	37,840	550	770	2,000	90	90	4,090	45,420	16.7
Wayne	24,580	680	270	1,090	150	60	2,750	29,580	16.9
Pike	9,550	120	180	1,050	10	20	890	11,820	19.2
TOTAL[2]	620,420 (71.0%)	59,530 (6.8%)	40,700 (4.7%)	27,950 (3.2%)	10,240 (1.2%)	1,740 (.2%)	113,300 (13.0%)	873,890 (100.0%)	29.0

SOURCE: Pennsylvania State University. Department of Agricultural Economics and Rural Sociology, op. cit.

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[1] Included in "Other" and "Percent Non-English" are those for whom mother tongue was not reported. From observations on existing data (see Appendix A-2 for further detail), one may assume that those of unreported mother tongue represent four to six percent of a county population.

[2] Subtotals may not add up to total due to rounding.

APPENDIX A-2

"OTHER" AND "NOT REPORTED" MOTHER TONGUES

For small areas and non-metropolitan counties, the category of mother tongues "Other" than those specifically enumerated also includes persons for whom this information was not reported. Thus, the dimension of "other", or of all non-English mother tongues can only be assumed by reasonable assumptions on the "not reported category". Observations on available data show that "not reported" may range between less than 1 and 6 percent of a given population, depending particularly on the distribution of persons of native and foreign nativity, and native and foreign parentage. From the following examples, one may assume the least degree of uncertainty about mother tongue among those who were foreign born, and the highest degree of uncertainty among natives of native parents. The latter may include many persons who, because of their parent(s)' background, were raised bi-lingually, and who may identify equally strongly with their American culture and the culture of their forefathers. If this assumption is correct, one may assume that a major proportion of the group of "not reported" mother tongues represents persons who also relate to a language group other than English. U. S. Census data for Pennsylvania further show a higher incidence of mother tongue "not reported" for areas where ethnocentricities are traditionally stronger, i.e. metropolitan rather than non-metropolitan, and urban rather than rural areas. This fact tends to reinforce the preceding observations.

POPULATIONS OF UNREPORTED MOTHER TONGUE BY NATIVITY, SELECTED AREAS, 1970 (PERCENT OF POPULATION)

Percent of Population

	Pennsylvania	Luzerne County[1]				Lackawanna County[1]		
		Total	Wilkes-Barre	Hazleton	Urban Balance	Total	Scranton	Urban Balance
Native Born	4.6	4.5	5.9	4.6	4.1	4.5	4.5	3.8
of native parent(s)	5.2	5.8	(NA)[2]	(NA)	(NA)	(NA)	(NA)	(NA)
of foreign parent(s)	1.1	1.1	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Foreign Born	1.0	.7	.8	.0	.8	.8	.4	1.4
TOTAL POPULATION	4.5	4.4	5.6	4.4	3.9	4.3	4.4	3.7

SOURCE: U.S. Bureau of the Census, Census of Population: 1970, DETAILED CHARACTERISTICS, and GENERAL SOCIAL AND ECONOMIC CHARACTERISTICS, Final Reports PC(1)-D40 and PC(1)-C40, Pennsylvania (U.S. Government Printing Office, Washington, D. C.), 1972.

[1] Data for Wilkes-Barre, Hazleton, Scranton, and the urban balance of Luzerne and Lackawanna Counties represent, with the exception of the Back Mountain and Abington areas, the most densely settled areas of the Northern and Eastern Middle Anthracite Field.

[2] Detailed data not available.

APPENDIX A-3

COMPARISON OF NATIVE BORN POPULATION AND POPULATION CLAIMING ENGLISH AS MOTHER TONGUE BY COUNTY, NORTHEASTERN PENNSYLVANIA, PENNSYLVANIA, UNITED STATES, 1970

		Percent of Population Born in the United States			Percent of Population With English Mother Tongue	Ratio of Population With English Mother Tongue to Native Born Population
		of Native Parents	of Foreign Parent(s)	Total		
Anthracite Counties	Luzerne	70.5	25.7	96.2	67.7	.70
	Lackawanna	69.3	26.2	95.5	69.0	.72
	Carbon	80.3	16.4	96.7	72.6	.75
	Schuylkill	81.7	16.0	97.7	74.0	.76
Pocono Counties	Wayne	84.5	12.6	97.1	83.2	.86
	Monroe	88.2	9.0	97.2	83.3	.86
	Pike	79.5	13.5	93.0	80.8	.87
	Northeastern Pennsylvania	74.3	22.1	96.4	71.0	.74
	Pennsylvania	81.9	14.3	96.2	78.6	.82
	United States	82.1	13.0	95.3	83.4	.88

SOURCE: U. S. Bureau of the Census. Census of Population: 1970 GENERAL SOCIAL AND ECONOMIC CHARACTERISTICS, Final Report PC(1)-C40 Pennsylvania. (U.S. Government Printing Office, Washington, D. C., 1972), and Final Report PC(1)-C1 United States (U.S. Government Printing Office, Washington, D. C.,

APPENDIX A-4

DISTRIBUTION OF PERSONS OF RECORDED MOTHER TONGUES BY MINOR CIVIL DIVISION, NORTHEASTERN PENNSYLVANIA ANTHRACITE FIELDS, 1970

LACKAWANNA COUNTY MCD'S	English	Polish	Russian	Italian	Other*	Total
Archbald Borough	66.6	8.8	1.8	13.4	9.8	100.0
Blakely Borough	60.6	10.0	2.3	10.7	16.4	100.0
Carbondale City	74.5	4.8	1.9	12.0	5.9	100.0
Carbondale Township	58.7	21.0	4.8	3.8	11.7	100.0
Dickson City Borough	50.5	27.8	4.2	3.1	14.4	100.0
Dunmore Borough	67.4	3.3	1.3	15.6	12.4	100.0
Fell Township	51.7	18.2	9.4	1.3	19.4	100.0
Jermyn Borough	77.3	5.3	6.3	3.3	7.8	100.0
Jessup Borough	50.8	5.7	2.8	24.5	16.2	100.0
Mayfield Borough	49.5	16.8	14.1	10.5	9.1	100.0
Moosic Borough	69.2	14.1	1.4	3.4	11.9	100.0
Old Forge Borough	50.6	10.1	5.5	22.7	11.1	100.0
Olyphant Borough	59.0	10.3	5.6	6.1	19.0	100.0
Scranton City	72.0	5.9	1.0	6.0	15.1	100.0
South Abington Township	83.7	2.5	1.5	2.1		
Taylor Borough	61.4	13.1	4.0	3.1	18.4	100.0
Throop Borough	52.8	16.2	1.9	6.7	22.4	100.0
Vandling Borough	33.6	18.1	39.7	0.0	8.6	100.0
(All of Lackawanna County:)	69.0	7.3	2.1	7.6	14.0	100.0)

LUZERNE COUNTY MCD'S	English	Polish	Russian	Italian	Other*	Total
Ashley Borough	66.8	15.1	1.5	2.3	14.3	100.0
Avoca Borough	76.3	15.3	1.1	1.7	5.6	100.0
Conyngham Township	64.1	17.0	0.4	8.2	10.3	100.0
Courtdale Borough	65.1	8.3	1.3	1.8	23.5	100.0
Dupont Borough	46.1	37.6	1.3	4.2	10.8	100.0
Duryea Borough	63.0	19.4	1.2	2.4	14.0	100.0
Edwardsville Borough	59.3	15.3	4.8	0.8	19.8	100.0
Exeter Borough	58.0	6.8	0.8	16.8	17.6	100.0
Forty Fort Borough	80.8	4.4	0.4	2.4	12.0	100.0
Foster Township	64.0	5.4	2.5	3.7	24.4	100.0
Freeland Borough	68.9	5.7	0.2	6.0	19.2	100.0
Hanover Township	66.3	14.2	1.8	1.6	16.1	100.0
Hazleton City	64.7	4.1	0.2	12.0	19.0	100.0
Hazle Township	65.5	9.5	0.3	4.5	20.2	100.0
Hughestown Borough	67.8	3.0	0.5	15.6	13.1	100.0
Jeddo Borough	85.0	0.0	0.0	0.0	15.0	100.0
Jenkins Township	58.5	8.2	2.4	8.7	22.2	100.0
Kingston Borough	72.2	7.0	1.2	1.7	17.9	100.0
Laflin Borough	65.4	5.0	18.6	2.8	8.2	100.0
Larksville Borough	55.6	20.8	0.5	0.6	22.5	100.0
Laurel Run Borough	73.9	4.5	2.1	1.8	17.7	100.0
Luzerne Borough	65.1	8.1	0.9	3.6	22.3	100.0
Nanticoke Borough	51.2	30.7	1.0	2.0	15.1	100.0
Newport Township	52.1	28.9	1.3	2.6	15.1	100.0
Pittston City	61.3	3.2	0.3	22.2	13.0	100.0
Pittston Township	62.1	7.0	0.6	22.1	8.2	100.0
Plains Township	53.4	16.5	3.8	8.8	17.5	100.0
Plymouth Borough	65.5	18.3	1.0	0.4	14.8	100.0
Pringle Borough	64.9	14.6	5.0	0.8	14.7	100.0
Sugar Notch Borough	65.6	14.8	0.0	1.8	17.8	100.0
Swoyersville Borough	51.5	13.0	1.4	4.2	29.9	100.0
Warrior Run Borough	65.6	15.2	1.5	0.0	17.7	100.0
West Hazleton Borough	63.9	11.8	0.1	4.8	19.4	100.0
West Pittston Borough	70.5	1.8	0.4	15.4	11.9	100.0
West Wyoming Borough	66.6	8.1	0.7	13.2	11.4	100.0
Wilkes-Barre City	69.3	7.8	1.5	3.7	17.7	100.0
Wilkes-Barre Township	55.0	22.3	3.4	0.8	18.5	100.0
Wyoming Borough	70.6	8.4	0.3	9.4	11.3	100.0
Yatesville Borough	59.3	2.6	0.0	37.1	1.0	100.0
(All of Luzerne County:	67.7	10.1	1.1	5.2	16.0	100.0)

SCHUYLKILL COUNTY MCD'S	English	Polish	Russian	Italian	Other*	Total
Ashland Borough (Part)	89.6	0.8	0.2	0.6	8.8	100.0
Blythe Township	75.0	13.3	0.3	0.5	10.9	100.0
Branch Township	69.0	7.0	1.2	0.8	22.0	100.0
Butler Township	83.5	2.2	0.4	0.7	13.2	100.0
Cass Township	66.7	3.2	0.0	0.8	29.3	100.0
Coaldale Borough	53.3	2.9	5.6	1.5	36.7	100.0
Delano Township	84.7	1.4	0.0	4.9	9.0	100.0
East Norwegian Township	56.3	3.6	0.6	0.7	38.8	100.0
East Union Township	63.3	11.1	1.6	3.6	20.1	100.0
Foster Township	84.2	6.0	0.0	0.0	9.8	100.0
Frackville Borough	78.5	4.3	0.7	0.9	15.6	100.0
Frailey Township	91.7	0.0	0.0	0.0	8.3	100.0
Gilberton Borough	70.9	5.9	0.0	0.0	23.2	100.0
Girardville Borough	86.9	1.1	0.0	3.3	8.7	100.0
Kline Township	56.6	8.3	1.4	14.1	19.6	100.0
McAdoo Borough	54.5	9.8	0.6	3.6	31.5	100.0
Mahanoy City Borough	72.4	4.4	0.7	2.9	19.6	100.0
Mahanoy Township	78.7	4.5	1.4	0.4	15.0	100.0
Mechanicsville Borough	82.1	0.0	0.0	0.0	17.9	100.0
Middleport Borough	68.3	8.0	0.0	0.0	1.1	100.0
Minersville Borough	64.0	6.6	0.7	5.6	23.1	100.0
New Castle Township	67.5	10.5	1.9	0.0	20.1	100.0
New Philadelphia Borough	71.0	5.4	0.0	1.0	22.6	100.0
Norwegian Township	77.2	3.4	0.9	0.9	17.6	100.0
Palo Alto Borough	76.0	0.0	1.0	8.2	14.8	100.0
Port Carbon Borough	76.7	2.0	0.8	0.9	19.6	100.0
Porter Township	76.0	1.3	0.0	0.6	22.1	100.0
Pottsville City	76.6	0.7	0.2	1.9	20.6	100.0
Rahn Township	81.0	0.0	0.0	0.0	19.0	100.0
Reilly Township	80.2	0.5	0.6	0.6	18.1	100.0
St. Clair Borough	72.2	4.3	2.3	0.3	20.9	100.0
Schuylkill Township	59.9	6.5	0.4	5.8	27.4	100.0
Shenandoah Borough	59.4	17.0	0.4	4.1	19.1	100.0
Tamaqua Borough	82.1	1.5	0.5	2.1	13.8	100.0
Tremont Borough	84.8	0.0	0.0	0.9	14.3	100.0
West Mahanoy Township	63.8	10.4	0.5	2.7	22.6	100.0
(All of Schuylkill County:	74.0	3.5	.6	1.8	20.1	100.0)

APPENDIX A-4 (continued)

CARBON COUNTY MCD'S	English	Polish	Russian	Italian	Other*	Total
Banks Township	83.1	1.2	0.0	0.4	15.3	100.0
Beaver Meadows Borough	54.3	3.9	0.0	1.2	40.6	100.0
Lansford Borough	58.6	8.3	1.4	3.6	28.1	100.0
Nesquehoning Borough	59.2	2.4	5.0	8.8	24.6	100.0
Summit Hill Borough	68.5	9.6	1.5	5.4	15.0	100.0
(All of Carbon County:	72.6	2.5	.7	2.0	22.2	100.0)

SOURCE: Pennsylvania State University, Department of Agricultural Economics and Rural Sociology, op. cit.

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* See Appendix B-2

APPENDIX B - COMMUNITY FACTOR ANALYSIS

APPENDIX B-1

DATA SOURCES FOR COMMUNITY FACTOR ANALYSIS

1. U.S. Bureau of the Census, Census of Population, 1970: Number of Inhabitants. Final Report P.C. (1). -- A-40 Pennsylvania.

2. Pennsylvania Department of Community Affairs. Local Government Financial Statistics, 1970.

3. U.S. Bureau of the Census, Fourth Count Summary Tapes, unpublished data.

4. Pennsylvania Department of Education. Our Schools Today, Public School Financial Statistics, 1970-71. Vol. 10 No. 7. (The Pennsylvania Department of Education used Market Value Per Weighted Average Daily Membership (WADM) for each school district. The districts' Market Value Per WADM was assigned to each community comprising the district.)

5. Pennsylvania Department of Commerce, Pennsylvania Industrial Census Series M5-70.

6. Bureau of Employment Security, Department of Labor and Industry, Annual Reports 1965-71.

7. U.S. Bureau of the Census. Census of Population 1970. Pennsylvania General Population Characteristics. Final Report PC(1). 40B. Pennsylvania.

APPENDIX B-2

COMMUNITY FACTOR ANALYSIS VARIABLES AND THEIR SIGNIFICANCE

VARIABLE NAME	VARIABLE SIGNIFICANCE	FACTORS LOADED BY VARIABLES						
		1. Tax Effort	2. Income Level	3. Tax Base	4. Public Expenditure	5. Size	6. Service Base	7. Borrowing Capacity
1. Total 1970 Population	- community size					●		
2. Expenditures per Capita	- level of local government spending				●			
3. Taxes per Capita	- degree of local taxation for public service requirements				●			
4. Tax Rate in Mills	- rate at which each community taxes real property	●						
5. Adjusted Mill Rate	- effective measure of community tax rate	●						
6. Total Net Debt	- local government financial condition					●		
7. Percent 1960-70 Population Change	- trends of community growth or decline		●					
8. Per Capita Income	- relative wealth of community residents			●				
9. Real Estate Market Value per Weighted Average Daily Membership	- value of real property per student in school district			●				
10. School Taxes in Mills of Real Estate Market Value	- degree of local tax effort to finance educational services			●				
11. Percent of Males 16+ in Labor Force	- extent of employment opportunities for local residents		●					
12. Percent of Females 16+ in Labor Force	- extent of employment opportunities for local residents							
13. Percent of Population Defined as Rural	- degree of community's rural or urban(izing) character	●						
14. Median School Years Completed by Persons 25+	- level of educational attainment in community							
15. Percent of Families with Poverty Level Incomes in 1969	- relative concentrations of poverty which, in turn, affect a community's ability to provide services		●					
16. Median 1969 Family Income	- relative wealth of community residents		●					
17. Population per Square Mile	- degree of urbanization	●						
18. Labor Market Area's Annual Average Percent of Unemployment (1965-71)	- long-range economic conditions affecting a community			●				
19. Percent of Population Under 18	- degree of concentration of youth dependent population						●	
20. Percent of Population Over 65	- degree of concentration of age dependent population						●	
21. Per Capita Market Value of Real Estate	- relative property values in community			●				●
22. Remaining Borrowing Capacity as Percent of Total Expenditures	- community ability to finance public projects							●
23. Percent 1966-70 Expenditure Change	- rate of growth in local government expenditures							
24. Annual Average Per Capita Outlay ('68-70)	- local government investments in capital projects				●			

APPENDIX B-3

INDIVIDUAL STEPS IN FACTOR ANALYSIS

1. Indicators or variables are selected: twenty-four variables in this case.

2. Data are collected for each variable for each community (24 x 266 = 6,384 data items).

3. The mean (average) values and standard deviations are computed for each indicator as a basis for measuring the data.

4. The inter-relationship of one variable to another is determined through the development of a correlation coefficient matrix.

5. Potentially twenty-four independent, uncorrelated factors could be selected. The factors show patterns which exist among the variables. The first factor selected explains the largest amount (percentage) of variance or difference among the variables. Each successive factor explains less and less amounts of difference in patterns derived from the variables. A cutoff is used so that a small number of factors explaining a large amount of the difference among the communities is obtained. These factors are included for further analysis.

6. Potentially all of the variables could be used in each factor. However, a subjective determination is made to include only those variables which have a weight or score of .50 or higher. This aids in further reduction of the data to identify the key characteristics which account for a community's well being relative to all other communities.

7. Each factor is assigned a name or description label which is consistent with the variables included in the factor.

8. An index score is computed for each community for each factor to provide a basis for ranking communities in relation to one another. The index score is computed as follows: factor contains only one variable. The mean value for the variable is subtracted from the actual data for any given community. The result is divided by the standard deviation for the variable. The resulting number is the standardized datum which is multiplied by the factor score coefficients to obtain the factor index scores. The highest factor score is given the highest factor rank.

9. The factor score ranks for each community are added and averaged. The resulting overall averages are ranked with the lowest overall average rank considered as the best relative to the other communities.

10. The overall average ranks are divided into quintiles with the lowest overall average rank considered as the best relative to the other communities.

11. The overall average ranks are divided into quintiles with 53 communities in each quintile. This permits the mapping of communities to show patterns and clusters of communities with high, moderate, and low standings in the region.

APPENDIX C - STATE AND FEDERAL ASSISTANCE SOURCE INVENTORY

TECHNICAL AND FINANCIAL ASSISTANCE
COMMONWEALTH OF PENNSYLVANIA

A number of State financial and technical assistance programs are directly or indirectly applicable to projects involving the reclamation of mine wasteland for recreation. While a complete assistance package may be compiled from State, federal, and private programs, the following reflects a list of examples from the Catalog of State Aids to Local Governments,[22] which relate to certain aspects of mine wasteland recreation projects. For many programs, the emphasis is on technical, rather than financial assistance.

PARKS, RECREATION AND OPEN SPACE TECHNICAL SERVICE

Legal Authority: Act 582 of 1966

Administrative Agency: Department of Community Affairs, Recreation and Conservation Bureau

Description: The Bureau provides consultant services to local governments to establish, organize, promote, conduct, and finance park and recreation programs, and acts as an information clearinghouse on specific aspects of such programs. Specific aspects include:

- Advise on facility development, open space acquisition and utilization of local, State and federal financial and physical resources.
- Assistance to local government for the organization of administrative agencies, development of programs and park planning and development.
- Participation in and review of studies and reports prepared by planning commissions, redevelopment authorities and other State, federal or local agencies which relate to river basins, parks and recreation, open space, natural beauty, etc.
- General research in the field of parks and recreation finance, land and facility standards, techniques of open space preservation and other topics of interest, and preparation and distribution of handbooks, research reports, guidelines, and other publications which deal with community parks and recreation.
- Provision of speakers for conferences and meetings to advise about the need for community park and recreation programs and their relationships to the general concepts of community development.
- Assistance in the area of personnel including establishment of professional positions and recruitment of candidates.

Eligibility: Counties, cities, boroughs, townships, school districts

Financial Data: State bears all program costs.

Technical Resources: Three park and recreation planners in the central office; one park and recreation advisor in the field.

Application Process: Letter of request to the Division.

Agency Address: Recreation and Conservation Div.
Bureau of Community Programs
Department of Community Affairs
Commonwealth of Pennsylvania
Harrisburg, PA 17120
(717) 787-7670

Field Offices: Regional Offices of DCA

Related Federal Program: Outdoor Recreational Technical Assistance Program sponsored by the Department of the Interior, Bureau of Outdoor Recreation, to provide advisory services and technical information upon request.

FEDERAL LAND AND WATER CONSERVATION FUND

Legal Authority: P.L. 88-578 of 1965 as amended, 78 Stat. 897

Administrative Agency: Department of Community Affairs, Recreation and Conservation Bureau, For: U. S. Department of Interior, Bureau of Outdoor Recreation

Description: The program provides up to 50 percent of the cost of development of county and municipal park, recreation and open space lands. Funds for the acquisition of such lands are provided in those State regions where a need exists according to the statewide outdoor recreation plan. The distribution of funds is influenced by the amount of state or federal aid received in the past. Specific program aspects are as follows:

- The funds are to be utilized primarily for rural and urban outdoor recreation and park programs.
- Development funds may be used for construction and improvement, alteration and renovation of local government outdoor recreational facilities. Included as eligible costs are necessary professional design fees.
- Land acquisition includes the purchase of land in fee simple and any improvements thereon; right-of-ways and conservation easements, i.e., the acquisition of certain property rights which will ensure that the land is maintained in its present state, or that its future use is limited; public right of ways over conservation easements may be negotiated to permit public use, i.e., the purchase to rights to a stream valley area which would provide that the land remain in an undeveloped state.

Related Technical Services: The Department will help with the preparation of the necessary application forms and will advise on the planning of the project.

Eligibility: Counties, cities, boroughs, and townships.

Financial Data: Federal Participation - Up to 50 percent of the project cost.

Technical Resources: Director, 2 landscape architects, 1 park construction engineer, 1 acquisition specialist, 2 recreation planners, 3 clerical persons in the central office; 2 park and recreation advisors in each regional office.

Application Process: Requests for assistance are initiated by a "Statement of Interest" submitted to the Regional Office. The "letter of interest" shall include specific information, the nature of which depends on the particular project requested. New applications are usually solicited between May and July of each year.

Agency Address: Director, Recreation and Conservation Bureau
Department of Community Affairs
Commonwealth of Pennsylvania
Harrisburg, Pennsylvania 17120
(717) 787-7670

Field Offices: Regional Offices of DCA

MINING AREA RESTORATION PROJECTS

Legal Authority: Act 275 approved December, 1970

Administrative Agency: Department of Environmental Resources, Office of Resources Management

Description: The Department administers a program to alleviate, to a limited monetary extent, environmental problems caused by mining practices, as follows:

- The program involves sealing and flushing of abandoned coal mines, culm bank fire control, and mine drainage control, where such work is in the interest of the public welfare.

- All restoration work is administered by the Office of Resources Management. The common practice is for the Department to acquire the necessary releases, agreements, and rights-of-way by direct contact with the legal property owners. If possible, the Department works with and through the political subdivision affected.

Related Technical Services: Department also administers the "Coal Land Improvement Fund" (Act 117 of July 9, 1965 as amended by Act 50, March 5, 1970), which may be used in conjunction with this program.

Eligibility: Abandoned coal mines.

Financial Data: State bears all direct costs of these projects. However, if political subdivision acquires said land, it would bear all costs of land acquisition legal fees related to establishing clear title of land (including mineral rights, as required).

Technical Resources: Division chief, 26 engineers, technicians, and administrative personnel in the Division of Mine Area Restoration; Division chief, 17 engineers, technicians, and administrative personnel in the Division of Mine Reclamation; District engineer, 50 engineering, technicians, and administrative staff in the Wilkes-Barre office; 50 engineering, etc. staff in the Pottsville office.

Application Process: Applicant sends letters to Deputy Secretary for Resources Management stating the nature of the problem. Department investigates to determine eligibility for assistance. Applicant may be requested to furnish additional information to the Department, and assistance in real estate clearances. If the project is eligible and funds are available, the Department initiates contracting for the project.

Agency Address: Deputy Secretary
Office of Resources Management
Department of Environmental Resources
Commonwealth of Pennsylvania
Harrisburg, Pennsylvania 17120
(717) 787-2315, 2362

Field Office: District Engineer
Department of Environmental Resources
93-95 North State Street
P.O. Box 910
Wilkes-Barre, Pennsylvania 18702

RECREATION PROGRAM TECHNICAL ASSISTANCE

Legal Authority: Section 1900, School Laws of Pennsylvania, 1961

Administrative Agency: Department of Education, Bureau of Vocational, Technical and Continuing Education, Division of Continuing Education

Description: Division offers consultation, advice and assistance to local recreation agencies in the formulation, organization and operation of recreation programs for all age groups, as follows:

- Division provides assistance only with respect to "program" aspects of recreation activities, but will cooperate with other State agencies concerning "facilities." Cooperation is extensive with Bureau of Recreation and Conservation, Department of Community Affairs.
- Division will participate in training courses and institutes for recreation leaders which are arranged by other local or State agencies. Division personnel attend association meetings to consult on recreation matters.
- Division will provide field consultation with representatives of one or more communities interested in recreation programs.

Eligibility: Counties, cities, boroughs, townships

Financial Data: State bears all program costs.

Technical Resources: 1 recreation consultant in central office

Application Process: Letter or telephone call request.

Agency Address: Division of Continuing Education
Bureau of Vocational, Technical and Continuing Education
Department of Education
Commonwealth of Pennsylvania
P.O. Box 911
Harrisburg, Pennsylvania 17126
(717) 787-5533

Related Federal Programs: Training Institute for Park and Recreation Management (National Park Service Training Institute) sponsored by the Department of the Interior, National Park Service. The program provides training assistance for park and recreation departments of state and local governments. Applicant information is available from: National Park Service, Training Institute for Park and Recreation Management, Harpers Ferry, West Virginia 25425.

LAND AND WATER CONSERVATION FOR ABANDONED COAL MINES - OPERATION SCARLIFT

Legal Authority: Act 443, as amended, (January 19, 1968)

Administrative Agency: Department of Environmental Resources, Office of Resources Management

Description: This program is dedicated to remedying problems which the previous years of coal mining have left in the coal regions of the Commonwealth. Specific program aspects are as follows:

- Stream Pollution: The Department utilizes whatever measures are required to correct this problem. In the cases where acid mine drainage treatment plants are necessary, the lands for these plants must be in public ownership.

- Underground Mine Fires: The Department performs all work necessary to control or eliminate fires which present hazards to urban areas.

- Burning Refuse Banks: The Department undertakes work to alleviate air pollution from those burning banks which adversely affect urban areas. The Act requires that the refuse bank, and the land which it occupies, must be in public ownership.

- Surface Ground Subsidence: The Department conducts all work necessary to reduce the effects of further subsidence in "built-up" areas.

Related Technical Services: Programs relating to air pollution, community development, fire, water, and mining.

Eligibility: Abandoned coal mines.

Financial Data: The Department bears all cost for these projects, with the exception of land acquisition. Where eligible and applicable, the Department obtains federal cost sharing funds. No grants or loans are authorized under this program. When necessary, the local interest group will be required to assist in obtaining the necessary property clearances. For acid mine drainage treatment plants and burning refuse bank fire projects, public ownership of necessary properties must be provided by the local governing body.

Technical Resources: Division chief, 26 engineers, technicians, and administrative personnel in the Division of Mine Area Restoration; Division chief, 17 engineers, technicians, and administrative personnel in the Division of Mine Reclamation; District engineer, 50 engineering, technical, and administrative staff in the Wilkes-Barre office; 50 engineering, technical, and administrative staff in the Pottsville office.

Application Process: Letter detailing problem to the Department which, in turn, investigates to determine feasibility and justifyability. Upon positive findings, the Department initiates corrective actions.

Agency and Field Office Addresses: same as for MINE RECLAMATION PROJECTS

PROJECT 500 RECREATION AREA REVIEW

Legal Authority: Through interdepartmental agreement with Department of Community Affairs, Chapters of Regulations applicable to facilities.

Administrative Agency: Department of Environmental Resources, Bureau of Community Environmental Control

Description: According to agreement, DER will approve site and plans relating to sanitation for recreation area development utilizing State funds administered by the Department of Community Affairs. The program includes:

- Site survey and approval.
- Plan review and approval.
- Annual operational inspection.

Technical Resources: Central Office technical consultant; field offices in each county with sanitarian field staff.

Agency Address: Department of Environmental Resources
Bureau of Community Environmental Control
P.O. Box 2063
Harrisburg, Pa. 17120

Field Offices: DER Regional Offices

PENNSYLVANIA RESOURCE RECOVERY ACT

Legal Authority: Act 198 of July 20, 1974

Administrative Agency: Department of Environmental Resources, Bureau of Land Protection, Division of Solid Waste Management

Description: Loan assistance for solid waste disposal/processing and resource recovery development:

- Loans up to 50 percent of project construction costs for up to ten (10) years.
- Establishes $20 million loan fund. Interest rate is set by Environmental Quality Board.
- Requires Department of Environmental Resources to administer programs and develop rules and regulations.

Technical Resources: Division of Solid Waste Management Resource Recovery Section; seven regional offices and local district offices.

Agency Address: Department of Environmental Resources
Division of Solid Waste Management
P.O. Box 2063
Harrisburg, PA 17120

Field Offices: DER Regional Offices

TECHNICAL AND FINANCIAL ASSISTANCE SOURCES - FEDERAL

A number of federal grant programs are applicable as potential funding sources for the development of recreation facilities and related activities on mine refuse banks. These funding sources are listed with a brief description of eligible activities and project requirements as published in the Catalog of Federal Domestic Assistance.[23] It should be noted that this listing reflects only potential funding sources and that individual projects would have to meet the applicable program requirements.

11.300 ECONOMIC DEVELOPMENT - GRANTS AND LOANS FOR PUBLIC WORKS AND DEVELOPMENT FACILITIES

Federal Agency: Economic Development Administration, Department of Commerce

Objective: To assist in the construction of public facilities to encourage long-term economic growth in designated geographic areas where such growth is lagging behind that of the Nation.

Types of Assistance: Project grants, direct loans

Uses and Restrictions: Grants for such public facilities as water and sewer systems, flood control projects, and access roads to economic development related sites, including recreation and tourism areas. Qualified projects must: (1) tend to improve the opportunities for the successful establishment or expansion of industrial or commercial plants or facilities, (2) assist in the creation of long-term employment opportunities, or (3) benefit the long-term unemployed and members of low-income families or otherwise substantially further the objectives of the Economic Opportunity Act of 1964. In addition, proposed projects must be consistent with the currently approved overall economic development program for the area, and for the district in which it will be located. Under Section 304, projects which are selected by the states in EDA designated areas may be financed from these allocations.

Applicant Eligibility: States, local subdivisions thereof, Indian tribes, and private or public nonprofit organizations or associations representing a redevelopment area or a designated economic development center. Corporations and associations organized for profit are not eligible.

11.304 ECONOMIC DEVELOPMENT - PUBLIC WORKS IMPACT PROJECTS

Federal Agency: Economic Development Administration, Department of Commerce

Objective: To provide immediate useful work for unemployed and underemployed persons in designated project areas.

Types of Assistance: Project grants

Uses and Use Restrictions: Construction of public facilities to provide immediate jobs to the unemployed and underemployed in the project area.

Applicant Eligibility: States and their local subdivisions, Indian tribes, and private or public nonprofit organizations representing a redevelopment area or economic development center. Corporations and associations organized for profit are not eligible.

10.651 FORESTRY COOPERATIVE RESEARCH (RESEARCH COOPERATIVE AID)

Federal Agency: Forest Service, Department of Agriculture

Objective: Extend the Forest Service research activities by sharing costs for basic and applied research with nonprofit institutions of higher education, and with other institutions and organizations engaged in scientific research.

Type of Assistance: Project grants.

Uses and Restrictions: Co-op Aid agreements will be used for research in the fields of timber management, watershed management, forest range management, wildlife habitat management, forest recreation, forest fire protection, forest insect and disease protection and control, forest products utilization, forest engineering, forest production economics, forest products marketing, and forest survey. Co-op Aid agreements are limited to five years duration.

Applicant Eligibility: Nonprofit institutions and organizations, state agricultural experiment stations, state and local governments, profit making institutions, organizations and individuals conducting scientific research. Applicant must substantiate that the proposed research is timely, of major significance, and in keeping with research objectives of the Forest Service.

10.652 FORESTRY RESEARCH (RESEARCH GRANTS)

Federal Agency: Forest Service, Department of Agriculture

Objective: To make grants for basic or applied research to profit and nonprofit institutions or organizations for the purpose of extending the research activities of the Forest Service.

Types of Assistance: Project grants.

Uses and Use Restrictions: Grants will be used for research in the fields of timber management, watershed management, forest range management, wildlife habitat management, forest recreation, forest fire protection, forest insect and disease protection and control, forest products utilization, forest engineering, forest production economics, forest products marketing, forest survey. Indirect expenses are negotiable within the indirect rate established by the Government's cognizant audit agency. Grants are limited to five years duration.

Applicant Eligibility: Applicants for grants for basic research under Public Law 85-934 must certify that they are a nonprofit institution of higher education or a nonprofit organization whose primary purpose is the conduct of scientific research. Grants for basic or applied research under Public Law 89-106 may be made to state agricultural experiment stations, state and local governments, nonprofit institutions or organizations, profit making private organizations or individuals, or other federal organizations.

10.655 ASSISTANCE TO STATES FOR TREE PLANTING AND REFORESTATION (FORESTATION AND TREE IMPROVEMENT, TITLE IV)

Federal Agency: Forest Service, Department of Agriculture

Objective: To provide assistance to states in their forestation and tree improvement projects that will help assure an adequate supply of timber.

Types of Assistance: Project grants

Uses and Restrictions: To assist states in undertaking needed programs of tree planting, other forestation and tree improvement activities. Reforestation work is carried out to restore low-yielding or non-productive forest lands to fuller production. New or expanded tree improvement projects are funded under this program in cost-sharing arrangements.

Applicant Eligibility: State forestry agencies.

10.659 COOPERATIVE PRODUCTION AND DISTRIBUTION OF TREE PLANTING STOCK (COOPERATION IN FOREST TREE PLANTING)

Federal Agency: Forest Service, Department of Agriculture

Objective: To stimulate forestation on non-Federal lands by helping the states furnish tree seed and planting stock for forest and windbarrier plantings.

Types of Assistance: Project grants.

Uses and Use Restrictions: To assist the states in producing, purchasing, and distributing planting stock or seed for forest, windbarrier, or watershed plantings. This enables states to provide planting stock at moderate prices.

Applicant Eligibility: State forestry agencies and, in a few states, the extension forester or school of forestry.

10.660 GENERAL FORESTRY ASSISTANCE (GFA)

Federal Agency: Forest Service, Department of Agriculture

Objective: To stimulate interest in better forestry in places and with owners not reached through other cooperative forestry programs.

Types of Assistance: Project grants

Uses and Use Restrictions: To provide highly specialized forestry assistance to and through State forestry agencies to woodland owners, associations, and the wood industry in the following activities: (1) land use planning, (2) dissemination of research findings, (3) forest products utilization, (4) forest management, (5) forest hydrology, management to state forestry agencies, (6) organizations, (7) wild and scenic river studies, and (8) special studies. The General Forestry Assistance funds are used primarily for Forest Service specialists. Use of funds for cost-sharing projects is limited to those activities or services not provided by other cooperative programs.

Applicant Eligibility: State forestry agencies.

10.661 YOUTH CONSERVATION CORPS - GRANTS TO STATES

Federal Agency: Forest Service, Department of Agriculture, Department of the Interior

Objectives: (1) To accomplish needed conservation on public lands, (2) provide gainful employment for 15 through 18 year old males and females from all social, economic, ethnic, and racial classifications, (3) develop an understanding and appreciation in participating youths of the Nation's natural environment and heritage.

Types of Assistance: Project grants.

Uses and Use Restrictions: Grant funds are provided to assist states in meeting the cost of projects for the employment of young men and women to develop, preserve, and maintain non-federal public lands and waters within the states. No grant is to be made for construction of residential facilities other than to provide temporary facilities and their necessary basic infrastructure and necessary renovation or modification of existing facilities.

Applicant Eligibility: All states are eligible. State, county, municipal, or other local governmental agencies administering non-federal public lands and waters are eligible for grants or sub-grants.

10.902 SOIL AND WATER CONSERVATION

Federal Agency: Soil Conservation Service, Department of Agriculture

Objectives: To plan and carry out a national soil and water conservation program, and to provide leadership in conservation, development, and productive use of the Nation's soil, water and related resources.

Types of Assistance: Owners and operators of private lands, units of state, county, and local government, zoning and planning bodies, etc. Units of government usually review resource assistance needed informally with the conservation district governing body. Individuals and groups usually become cooperators with local conservation districts to which application for assistance is directed.

10.903 SOIL SURVEY

Federal Agency: Soil Conservation Service, Department of Agriculture

Objectives: To provide published soil surveys of counties or other comparably sized areas for widespread use by interested agencies, organizations, and individuals.

Types of Assistance: Dissemination of technical information

Uses and Restrictions: Soil surveys are of vital importance to planners, engineers, zoning commissions, tax commissions, home owners, developers, and land owners and operators who use them to locate soils suitable for homesites, subdivisions, commercial and industrial sites, farms, wildlife and recreation areas, prime agricultural land, highways, and airports.

Applicant Eligibility: All individuals and groups that have a need for soil surveys are eligible to receive this information.

10.905 PLANT MATERIALS FOR CONSERVATION

Federal Agency: Soil Conservation Service, Department of Agriculture

Objectives: To assemble, evaluate, select, release, and introduce into commerce new and improved plant materials for soil, water, wildlife conservation, and environmental improvement.

Types of Assistance: Sale, exchange, or donations of property and goods.

Uses and Restrictions: Materials are used in all phases of the soil and water conservation program. Plant materials centers produce only enough of any variety for field testing to prove value in conservation and to provide cooperators with breeder and foundation quality seed or propagules. Large-scale production is conducted by cooperating commercial producers in conjunction with soil conservation districts and agricultural experiment stations.

Applicant Eligibility: Cooperating state and federal agencies and cooperators of conservation districts interested in field testing plants for conservation purposes.

14.218 COMMUNITY DEVELOPMENT BLOCK GRANTS/ ENTITLEMENT GRANTS

Federal Agency: Community Planning and Development, Department of Housing and Urban Development.

Objectives: To develop viable urban communities, suitable living environments, and expanded economic opportunities, especially for low-moderate income groups.

Types of Assistance: Formula grants

Uses and Use Restrictions: The program consolidates seven former community development-type categorical programs, including Urban Renewal, Model Cities, Neighborhood Facilities, Open Space Land, Historic Preservation, Urban Beautification, the Basic Water and Sewer Facilities Program, Public Facilities Loans, and Rehabilitation Loans. Most activities previously eligible under the categorical programs are eligible under this program, as well as certain public services not otherwise funded which are necessary or appropriate to support other block grant activities. Construction or rehabilitation of certain community-wide facilities, such as stadiums, cultural, or convention centers, is not included in program.

Applicant Eligibility: Cities in SMSA's of over 50,000 people, "urban counties," as defined in the Act, and central cities in SMSA's of less than 50,000 people are entitled to receive amounts of funds determined by a statutory formula. Localities which received grants under the urban renewal and model cities programs will receive "hold harmless" grants based on their level of prior participation in those programs.

14.219 COMMUNITY DEVELOPMENT BLOCK GRANTS/ DISCRETIONARY GRANTS

Federal Agency: Community Planning and Development, Department of Housing and Urban Development

OBJECTIVES: See Entitlement Grants (p. 101)

Type of Assistance: Project grants

Uses and Use Restrictions: Generally the same as for entitlement grants

Applicant Eligibility: Applicant may be eligible for grants from one or more of the three sources of discretionary funds. (1) General Purpose Fund: Funds remaining after entitlement and hold harmless obligations are met. Applicants are states and units of general local governments, except for metropolitan cities and urban counties. (2) Secretary's Fund: Two percent of the total funds each year is set aside in a national discretionary fund for grants to communities, to carry out community development programs and innovative projects; to meet emergency community development needs caused by federally recognized disasters, and to correct inequities arising from the formula allocation. (3) Urgent Needs Fund: a special fund intended to help in bridging the gaps between old categorical programs and the new block grants.

15.400 OUTDOOR RECREATION - ACQUISITION, DEVELOPMENT AND PLANNING

Federal Agency: Bureau of Outdoor Recreation, Department of the Interior

Objective: To assist states and political subdivisions in the preparation of outdoor recreation plans, and in the acquisition and development of recreation areas.

Types of Assistance: Project grants

Uses and Restrictions: Acquisition and development grants may be used for a wide range of outdoor recreation projects, such as picnic areas, inner city parks, campgrounds, tennis courts, boat launching ramps, bike trails, outdoor swimming pools, and support facilities such as roads, water supply, etc. Facilities must be open to the general public and not limited to special groups. Development of basic rather than elaborate facilities is favored. Priority consideration generally is given to projects serving urban populations. Fund monies are not available for the operation and maintenance of facilities. Grants for the preparation, revisions, or updating of outdoor recreation plans are limited to state recreation plans.

Applicant Eligibility: For planning grants, only the state agency formally designated by the governor or state law as responsible for the preparation and maintenance of the Statewide Comprehensive Outdoor Recreation Plan is eligible. For acquisition and development grants, the above state agency may apply for assistance for itself, or on behalf of other state agencies or political subdivisions, such as cities, counties, and park districts. Individuals and private organizations are not eligible.

15.402 OUTDOOR RECREATION - TECHNICAL ASSISTANCE

Federal Agency: Bureau of Outdoor Recreation, Department of the Interior

Types of Assistance: Advisory services and counseling; Dissemination of technical information.

Uses and Restrictions: The Bureau provides program policy advice and consultation to other federal agencies assisting the states and their political subdivisions and private entities in providing public outdoor recreation opportunities, and works directly with professional recreation employees of states, their political subdivisions, and private interests in supplying technical information useful in planning, developing, financing, and managing outdoor recreation programs, and related research and educational activities. Advisory assistance in planning, designing and evaluating research and educational projects may be provided to public and private academic and research organizations. Technical assistance is also given to state and local governments relating to applications for federal surplus property for public park and recreation purposes in cooperation with GSA's Disposal of Federal Surplus Real Property program (39.002). Technical information and aids are available to federal, state, local and private programs relating to outdoor recreation and environmental quality. Activities in support of technical participation in seminars, conferences and consultations, cooperative programs, and liaison between public and private agencies, governmental and educational institutions, and public and professional media.

Applicant Eligibility: Anyone may apply.

15.605 FISH RESTORATION

Federal Agency: U.S. Fish and Wildlife Service, Department of the Interior

Objective: To support projects designed to restore and manage sport fish populations for the preservation and improvement of sport fishing and related uses of these fisheries resources.

Type of Assistance: Formula grants

Uses and Use Restrictions: Approvable activities include land acquisition, development, research and coordination. Activities prohibited are law enforcement and public relations.

Applicant Eligibility: Participation limited to state fish and game departments. States must have passed law for the conservation of fish which include a prohibition against diversion of license fees paid by fishermen for purposes other than the administration of the state fish and game department.

15.608 SPORT FISH TECHNICAL ASSISTANCE

Federal Agency: U.S. Fish and Wildlife Service, Department of the Interior

Objective: To provide planned technical assistance and information to military reservations, other state and federal agencies and the private sector in management of waters for sport fishing.

Type of Assistance: Provision of specialized services

Uses and Use Restrictions: Assistance in the form of biological examinations of waters involved and specific recommendations based on the conditions found to exist. Stocking of fish from National Fish Hatcheries may be one of the management tools considered. The program does not provide financial assistance for construction of ponds, lakes, or for other purposes.

Applicant Eligibility: Indian tribes and federal agencies are eligible to request direct aid. Public or private agencies and organizations are eligible for assistance as circumstances permit.

15.609 WILDLIFE TECHNICAL ASSISTANCE

Federal Agency: Fish and Wildlife Service, Department of the Interior

Objective: To provide information and planned technical assistance to military reservations, other state and federal agencies, and private organizations to improve conditions for the management of wildlife resources.

Types of Assistance: Training; Advisory services and counseling; Dissemination of technical information.

Uses and Use Restrictions: Requests may be made for direct assistance or verbal or written information; personnel will also assist in teaching short courses.

Applicant Eligibility: Indian tribes are eligible to request direct aid. Public or private agencies and organizations are eligible for assistance as circumstances permit.

15.611 WILDLIFE RESTORATION

Federal Agency: U.S. Fish and Wildlife Service, Department of the Interior

Objectives: To support sound and substantial undertakings to (1) restore or manage wildlife populations and to preserve and improve habitat for non-game species, endangered species, hunting, and other use of the resources, or (2) provide facilities and services for conducting a hunter safety program.

Type of Assistance: Formula grants

Uses and Use Restrictions: Approvable activities include land acquisition, development, research and coordination. Activities prohibited are law enforcement and public relations.

Applicant Eligibility: Participation limited to state fish and game departments. States must have passed laws for the conservation of fish which include a prohibition against diversion of license fees paid by hunters for purposes other than the administration of the state fish and game department.

66.602 ENVIRONMENTAL PROTECTION CONSOLIDATED GRANTS--SPECIAL PURPOSE (RESOURCE CONSERVATION AND RECOVERY ACT OF 1976)

Federal Agency: Grants Administration Division, Office of Planning and Management, Environmental Protection Agency.

Objectives: To consolidate special purpose grants as an alternate grant mechanism which will provide the consolidation into one grant instrument for grants awarded separately for specific environmental protection activities. They can be included in jointly funded assistance projects.

Types of Assistance: Project grants

Uses and Use Restrictions: Grant funds may be used for costs incurred in the conduct of environmental projects in accordance with the purposes enumerated in the approved application. Deviations to normal EPA grant administration regulations and procedures may be granted only by the Director, Grants Administration Division. Joint Funding: This program is considered suitable for joint funding with other closely related federal financial assistance programs in accordance with the provisions of OMB Circular No. A-111. For programs not eligible or suitable for joint funding, applicants may consult the headquarters of the appropriate funding agency for further information on statutory or other restrictions involved.

Applicant Eligibility: Any entity eligible to receive and administer funds made available through the applicable statutory authorization.

23.001 APPALACHIAN REGIONAL DEVELOPMENT

Federal Agency: Appalachian Regional Commission

Objective: To stimulate public facility investments and the establishment of institutions to facilitate accelerated social and economic development according to the Appalachian Plan.

Types of Assistance: See the following individual program descriptions.

Uses and Use Restrictions: Appalachian funds enable the state and local areas to develop networks of facilities and services. In considering programs and projects to be given assistance under this act, and in establishing a priority ranking of the requests for assistance, the Commission follows procedures insuring consideration of the following factors: (1) the relationship of the project to overall regional development, including its location in an area determined by the state as having a significant potential for growth; (2) the population and area to be served by the project including the relative per capita income and the unemployment rates in the area; (3) the relative financial resources available to the state or political subdivision or instrumentalities thereof which seek to undertake the project; (4) the importance of the project in relation to other projects which may be in competition for the same funds; (5) the prospects that the project will promote economic and social development in the area served.

Applicant Eligibility: (a) States, and through the states, public bodies and private non-profit organizations; and (b) limited dividend organizations.

23.002 APPALACHIAN SUPPLEMENTS TO FEDERAL GRANT-IN-AID

Federal Agency: Appalachian Regional Commission

Objectives: To provide supplemental funds to increase the federal contribution for projects of construction, land acquisition, and/or equipment for eligible applicants, who, because of their economic situation cannot supply the required matching share of the basic federal program and to provide special basic grants where there are insufficient funds available under the basic federal grant-in-aid program to meet the pressing needs of the region.

Types of Assistance: Project grants

Uses and Use Restrictions: The grants may be used for providing supplemental funds under any federal grant-in-aid programs authorized on or before December 31, 1974. The special basic grants are new. To be eligible for special basic grants, projects must be of high priority in the state's Appalachian Development Plan and either of critical importance to a phased investment and development program for a multicounty area, or of unusual economic benefit to such area. Refer to the Appalachian Regional Development Program (23.001) and Section 214 of the Appalachian Regional Commission Code for additional use restrictions.

Applicant Eligibility: States, and through the states, their subdivisions and instrumentalities and private non-profit agencies.

23.010 APPALACHIAN MINE AREA RESTORATION

Federal Agency: Appalachian Regional Commission

Objectives: To further the economic development of the region by rehabilitating areas presently damaged by deleterious mining practices and by controlling or abating mine drainage pollution, and to meet the objectives stated under the program entitled Appalachian Regional Development (23.001)

Types of Assistance: Project grants

Uses and Use Restrictions: Seal and fill voids in abandoned coal mines and abandoned oil and gas wells; reclaim and rehabilitate lands affected by strip and surface mining and by processing of coal and other minerals including land affected by waste piles; extinguish underground and out-crop mine fires, and control or abate mine drainage pollution. Activities to reclaim strip mined areas are limited to lands owned by federal, state, or local bodies of government otherwise meeting the restrictions stated under program entitled Appalachian Regional Development (23.001)

Applicant Eligibility: States, and through the states, public bodies owning strip mined land in need of restoration. The states are eligible to apply for assistance to seal and fill voids in abandoned coal mines, plan and execute projects for the extinguishment and control of underground and out-crop mine fires, seal abandoned oil and gas wells.

SURFACE MINING CONTROL AND RECLAMATION GRANTS

Federal Agency: U.S. Department of Interior (Surface Mining Control & Reclamation Act of 1977)

Objectives: To improve the quality of mine-related educational programs and rehabilitation of strip-mined areas by providing grants for the training of engineers at all state mining schools and universities, and the establishment of a 15-year Abandoned Mine Reclamation Fund available to small coal operators, landowners, and the state.

Types of Assistance: Project Grants

Uses and Use Restrictions: Grants to State Mining Research Institutes are restricted to public institutions with mining programs in operation for two years. Ten coal research labs at universities located in major coal states will be established. Priorities for use of the Abandoned Mine Reclamation Fund include: (1) reclamation of lands where public health and safety are involved, (2) prevention of environmental degradation, (3) development of mining affected public lands and facilities, (4) RC&D on reclamation and water quality control methods, and (5) specific sealing of deep mines, restoration of stream beds, construction of water treatment plants, and control of mine fire and subsidence as eligible activities for funding.

Applicant Eligibility: States, and through the states, public institutions (mining schools or educational programs on mining) with four full-time staff members, certification of eligibility by the Advisory Committee and establishment of a research component. University must be located in a major coal state. State is eligible for funding only if it has an approved regulatory program for strip mining.

FOOTNOTES

FOOTNOTES

1. These U.S. Bureau of Mines data of 1969 pertain only to those refuse banks which contain 10,000+ cubic yards of refuse material.

2. Reference is made to the "Pennsylvania" period as recently defined by the American Commission on Stratigraphic Nomenclature and accepted by the U.S. Geological Survey.

3. Joseph S. Ward and Associates, Geological Inventory (Northeastern Pennsylvania - Toward the Year 2000 Series), prepared for the Economic Development Council of Northeastern Pennsylvania, June, 1975, p. II-6.

4. Ibid.

5. Ibid., Appendix Plate II.

6. Data on refuse materials are extracted from: The Urban Services Group, Inc., Survey of Mining Refuse Uses in Northeastern Pennsylvania, draft final report submitted to the Economic Development Council of Northeastern Pennsylvania, 1976.

7. Interview with Thomas Garrity, Luzerne County Assessor.

8. The "Project 70" program, approved by statewide referendum in 1963, provided $70 million for state agencies and local governments to acquire recreational open space under this program. Over 43,000 acres were acquired by about 350 local governments.

9. The preceding data are from U.S. Bureau of the Census, Census of Population, 1970; General Population Characteristics, Final Report PC(1)-B40, Pennsylvania (U.S. Government Printing Office, Washington, D. C., 1971)

10. Interviews with persons in "anthracite communities" showed an overwhelming concern that "there is nothing to do for young people in their spare time."

11. Interviews with Professor Abraham Bernstein, Keystone Junior College, LaPlume, and Vincent Yuskiewicz, Polish National Catholic Union, Scranton.

12. Interviews with Dr. John Baldi, Scranton University, and Professor Bernstein, op. cit.

13. Carla Bianca, The Two Rosetos (Bloomington, Indiana University Press, 1974), pp. 211-212.

14. Economic Development Council of Northeastern Pennsylvania, A Fiscal Study of Local Governments in Northeastern Pennsylvania, prepared for the Pennsylvania Department of Community Affairs, 1975.

15. Although educational attainments within a community may have a bearing on the ability of its members to initiate and carry out a project, the available data do not appear to provide adequate measures in terms of quality and intensity of education. The only data provided by the U.S. Census are those on "number of school years completed." Since the definition of school year varies among educational systems, (e.g. the Pennsylvania school year consists of about 180 days, compared to about 270 days in many European systems), there is little

comparability for a region in which a certain segment of the population has been educated abroad. For instance, eight years of education under a 270 day system would represent an educational time equivalent of 12 years under the 180 day system. Due to these statistical problems, which would not apply to a more homogeneous society, data pertaining to this factor are omitted from this discussion.

16. Wilkes-Barre City Planning Commission.

17. Commonwealth of Pennsylvania, Department of Community Affairs, Pennsylvania Recreation Survey - The Local Point of View, prepared by IDE Associates, Inc., (Philadelphia, Pennsylvania, 1975).

18. This question is based on the following example: During an interview with two Penn State University classes (Worthington Scranton Campus) about student attitudes towards their hometown and its recreational offerings, there was general laughter when someone timidly admitted to be from Carbondale. Further questioning brought out the sentiment that there was absolutely nothing of interest in this community. Only when we alluded to its heritage and potentials, which have attracted certain outstanding new residents, did the laughter subside.

19. Commonwealth of Pennsylvania, Department of Community Affairs, Recreation Close to Home; An Action Program for Municipal Recreation, (Harrisburg, Pennsylvania, January, 1977), pp. 4ff.

20. For background data and information, use may be made of:

    . Pennsylvania State University. College of Mineral Industries. The Mineral Industry Experiment Station: Various studies for the Pennsylvania Coal Research Board.

    . U.S. Department of the Interior, Bureau of Outdoor Recreation, their Reclamation and Assistance Center File.

    . U.S. Department of the Interior, Office of Library Services, Surface-Mined Areas: Control and Reclamation of Environmental Damage, (Bibliography Series No. 27).

21. A good example for an institutional resource is the Polish National Union, an ethnic-religious fraternal organization which, according to Vincent Yuskiewicz, sponsors, among other things, track and field events through its Young Men's Society of the Resurrection, as well as a number of other sports events and a Choir Circle.

22. Pennsylvania Department of Community Affairs. Bureau of Local Government Services. Information Services Division, Catalog of State Aids to Local Governments, (Harrisburg, May, 1976), 4th ed.

23. Executive Office of the President. Office of Management and Budget, 1977 Catalog of Federal Domestic Assistance (Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402).

24. U.S. Bureau of the Census, Censuses of Population: 1930-1970, op. cit. and U.S. Bureau of the Census, 1973 Population Estimates (Current Population Reports, Series P-25, No. 583), U.S. Government Printing Office, Washington, D. C., May, 1975.

25. Dr. Pierce F. Lewis, Geographer of Pennsylvania State University, as quoted in The Patriot, March 30, 1973.

26. EDCNP, A Fiscal Study of Local Governments in Northeastern Pennsylvania, op. cit.

27. J.S. Ward, op. cit., Appendix Plate III.

28. U.S. Bureau of the Census, U.S. Census of Population: 1970, 4th county summary tapes.

29. Interview with Steve Delman and Bernard Moro, Beaver Meadows Borough Council, and Bruce Conrad, Carbon County Planning Commission.

30. Ibid.

31. The Geological Society of America. Committee on Environmental and Public Policy, Impacts and Management of Off-Road Vehicles, (3300 Penrose Place, Boulder, Col., The Geological Society of America, May, 1977)

NOTE: The reader may also refer to the following publications for further insights:

R. J. Badaracco, ORVs: Often Rough on Visitors, in *National Parks and Recreation*, September, 1976.

M. F. Baldwin and D. H. Stoddard, Jr., The Off-Road Vehicle and Environmental Quality, The Conservation Foundation, Washington, D. C., 1973.

S. Bennet, A Trail Rider's Guide to the Environment, The American Motorcycle Association, Westerville, Ohio, 1973.

1977 - 1978
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